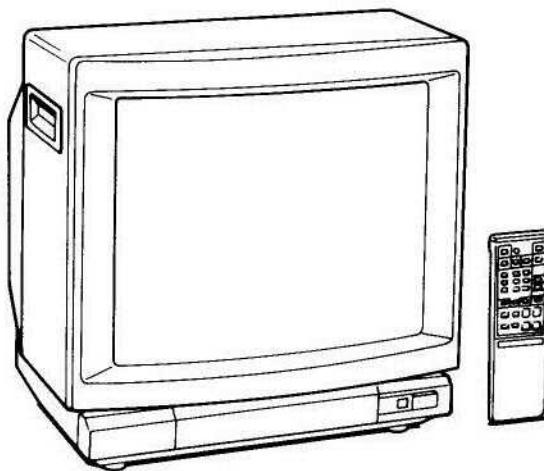


KV-19XMD / 19XMTD

RM-652 RM-654

SERVICE MANUAL

West Germany Model



GP-2 CHASSIS

Note: The service manual for RM-652 and RM-654 have been issued separately.

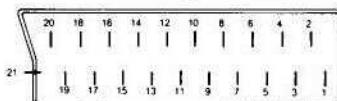
SPECIFICATIONS

Television system	CCIR system, B, G and H
Colour system	PAL, SECAM
Channel coverage	VHF channels E2-E12 UHF channels E21-E69 Cable TV channels S1-S20 (a total of up to 30 preselected channels)
Picture tube	Trinitron tube Approx. 49.4 cm (19 inches) 90 degree deflection (Approx. 45.8 cm picture measured diagonally)
Aerial socket	75-ohm standard coaxial socket
Speaker	5 x 9 cm dia.
Audio output	2 W (with 10% harmonic distortion)
Input/output	21-pin connector, Euro AV with the requirement of CENELEC standard
Power requirements	220-240 V AC, 50 Hz
Power consumption	KV-19XMTD: 66 Wh KV-19XMD: 62 Wh
Dimensions	Approx. 467 x 437 x 461 mm (w/h/d) (18½ x 17¼ x 18¼ inches)
Weight	KV-19XMTD: approx. 19.5 kg (43 lb) KV-19XMD: approx. 19.4 kg (42 lb 12 oz)
Accessories supplied	KV-19XMTD: Remote Commander RM-654 KV-19XMD: Remote Commander RM-652 with two R6 (size AA) batteries

MODELS OF THE SAME SERIES

KV-2100WX

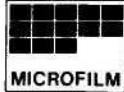
21-pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5 Vrms/1 kilohm or less
2	Audio input	0.5 Vrms/10 kilohms or more
3	Audio output	0.5 Vrms/1 kilohm or less
4	Earth (audio)	
5	Earth (B-input)	
6	Audio input	0.5 Vrms/10 kilohms or more
7	B-input	0.7 Vp-p/75 ohms
8	Function switching	9.5 V to 12 V
9	Earth (G-input)	
10		
11	G-input	0.7 Vp-p/75 ohms
12		
13	Earth (R-input)	
14	Earth	
15	R-input	0.7 Vp-p/75 ohms
16	Fast blanking	1 V to 3 V/75 ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1 Vp-p/75 ohms
20	Video input	1 Vp-p/75 ohms
21	Screening plug	

Design and specifications subject to change without notice.

TRINITRON® COLOR TV
SONY®



MICROFILM

MC-Service

CTV

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL					
1-1.	Location of Controls	3	4.	CIRCUIT ADJUSTMENTS	
1-2.	Programing	4	4-1.	F Board Adjustment	15
1-3.	Operation for Teletext (Only for the KV-19XMTD)	6	4-2.	A Board Adjustments	15
4-3.	V Board Adjustments (KV-19XMTD only)		4-3.	V Board Adjustments (KV-19XMTD only)	16
2. DISASSEMBLY					
2-1.	Service Position for A Board	8	5.	DIAGRAMS	
2-2.	Picture Tube Removal	9	5-1.	Printed Wiring Boards	17
2-3.	Anode Cap Removal	10	5-2.	Circuit Boards Location	21
5-3.	Schematic Diagrams		5-3.	Schematic Diagrams	22
5-4.	Semiconductors		5-4.	Semiconductors	32
3. SET-UP ADJUSTMENTS					
3-1.	Beam Landing	11	6.	EXPLODED VIEWS	
3-2.	Convergence	12	6-1.	Bezel	33
3-3.	Focus	14	6-2.	Chassis	34
3-4.	G2 and White Balance	14	6-3.	Picture Tube	35
3-5.	Sub BRT	14	7.	ELECTRICAL PARTS LIST	36

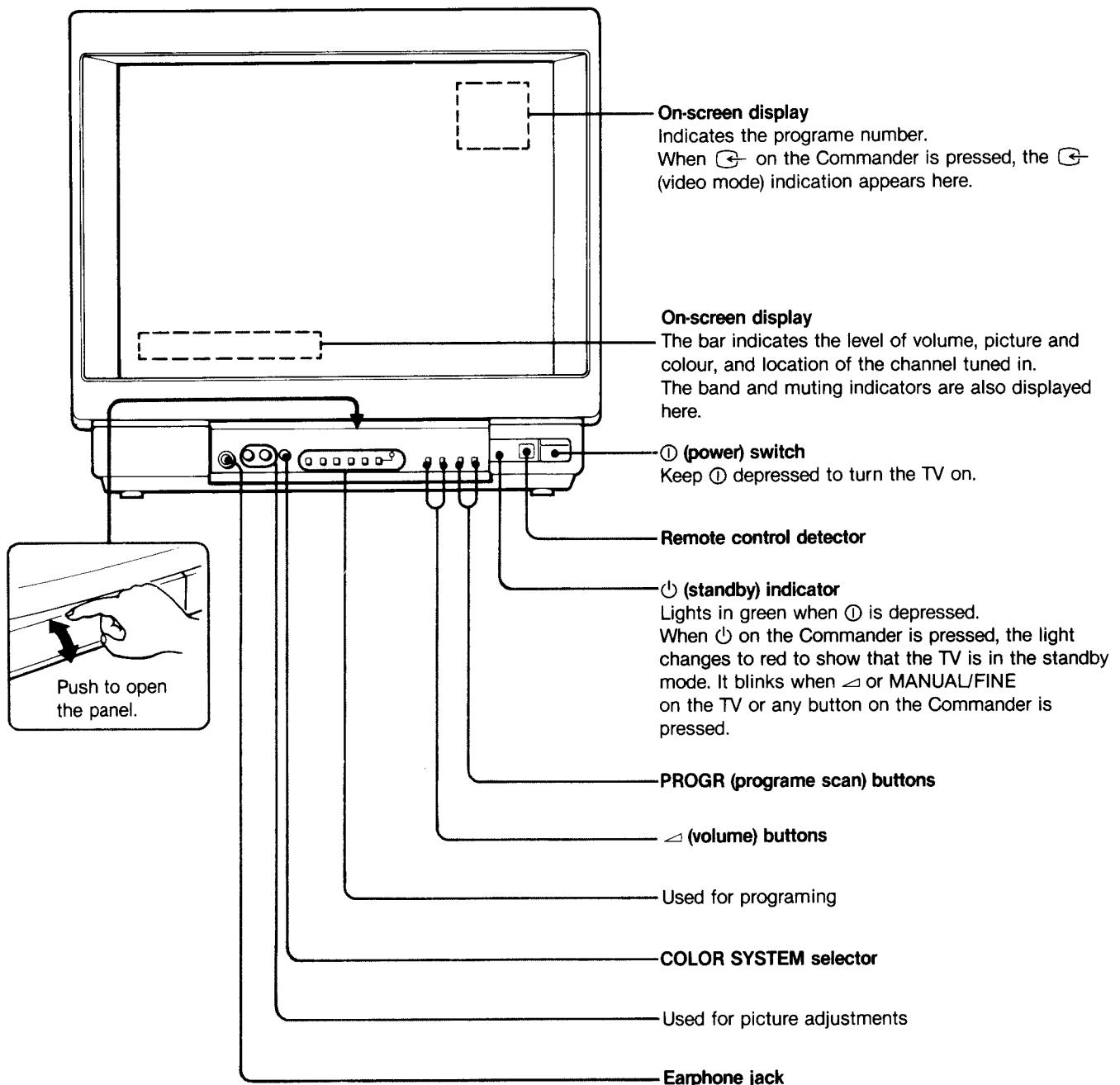
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1

GENERAL

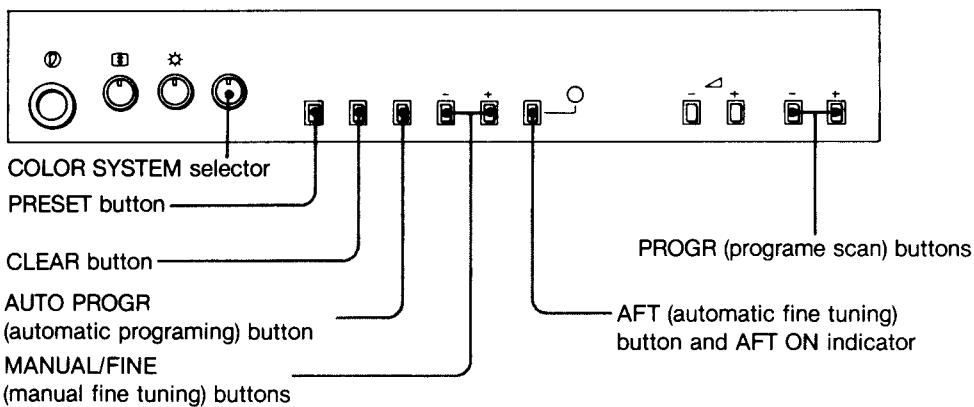
1-1. LOCATION OF CONTROLS



1-2. PROGRAMMING

You can choose either automatic or manual programming. Automatic programming presets up to 30 receivable channels automatically from the lowest frequency to the highest. With manual programming the active channels can be preset in the order you prefer.

Panel opened



AUTOMATIC PROGRAMMING

- 1 Depress ①.
- 2 Press on the Commander if the indication is displayed on the screen.
- 3 Set COLOR SYSTEM to AUTO.
- 4 Press PRESET (ON) to set the TV in the programming standby mode. The programme number will blink and the band indicator will appear on the screen.
- 5 With PROGR +/- or the programme number buttons on the Commander, select the programme position from which automatic programming begins.
- 6 Press AUTO PROGR. Automatic programming will start to tune in all receivable channels in sequence. When no more station can be located, the programme number from which the automatic programming started will light on the screen and automatic programming will stop. The programming mode will be cancelled automatically.

MANUAL PROGRAMMING

- 1 Depress ①.
- 2 Press on the Commander if the indication is displayed on the screen.
- 3 Set COLOR SYSTEM to AUTO.
- 4 Press PRESET (ON) to set the TV in the programming standby mode. The programme number will blink and the band indicator will appear on the screen.
- 5 Press PROGR +/- or the programme number buttons on the Commander to select the programme position where a channel is to be tuned in.
- 6 Press + or - MANUAL/FINE. The first channel found will appear. Every time you press + MANUAL/FINE, a higher-numbered channel will be tuned in and every time you press - MANUAL/FINE, a lower-numbered channel will be tuned in. Repeat pressing until the desired channel is found.

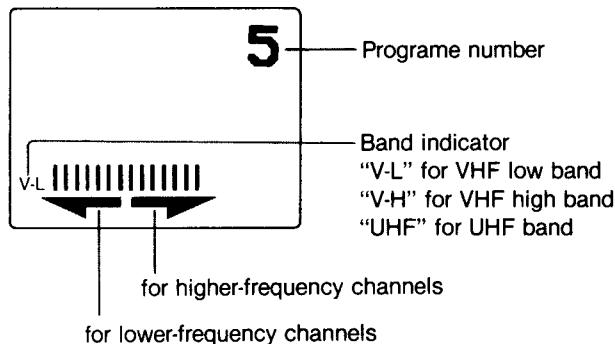
Repeat steps 5 and 6 for all desired channels.

- 7 Press PRESET (OFF).

To reset the TV to the lowest frequency of the band, press CLEAR when PRESET is set to ON.

ON-SCREEN DISPLAY WHILE TUNING

The band in which the channel is being tuned in and a bar will appear. The length of the bar shows the approximate position of the channel being tuned in within the band.

**FINE-TUNING A WEAK STATION**

If the picture of a particular channel is not acceptable, make sure PRESET is set to OFF (the band indicator does not appear on the screen), and keep + or - MANUAL/FINE pressed until the picture becomes clear. When either MANUAL/FINE is pressed, the automatic fine tuning on the selected channel is deactivated and the AFT ON indicator goes off. To view this particular channel, keep the automatic fine tuning deactivated. (Do not press AFT.) When other channels are selected, the automatic fine tuning reactivates automatically.

SKIPPING UNUSED PROGRAMME POSITIONS

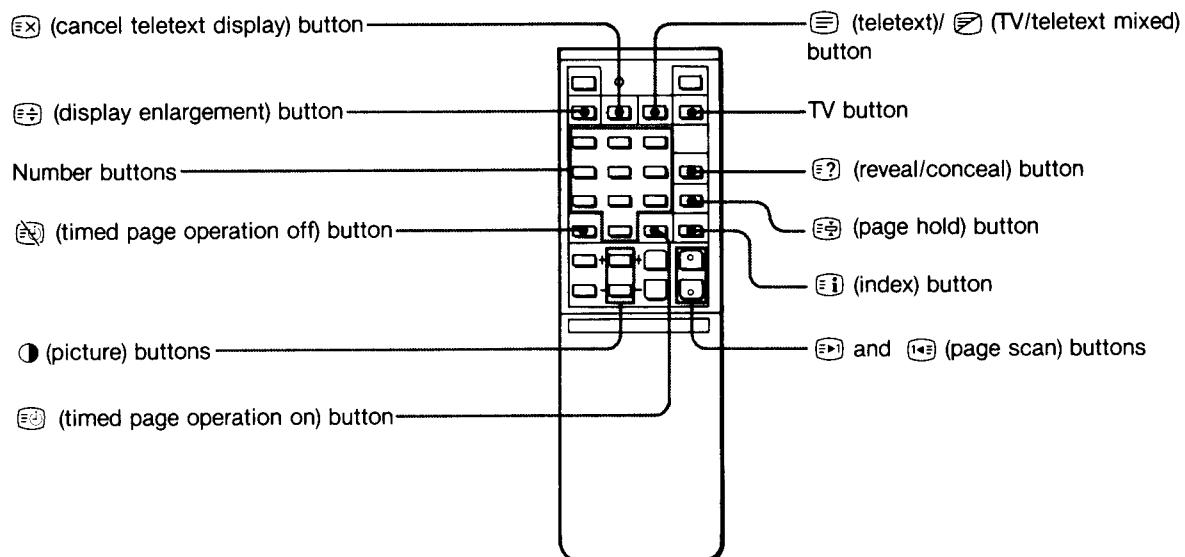
- 1** Press PRESET (ON) when the programme number display shows an unused position. The programme number will blink.
- 2** Press CLEAR.
- 3** Press PRESET (OFF).

Later, when you press PROGR +/-, the unused positions will be skipped.

1-3. OPERATION FOR TELETEXT (Only for the KV-19XMTD)

VIEWING TELETEXT

To view the teletext service, use the RM-654 Remote Commander. The buttons used for teletext operation are indicated in green.



Operation

- 1 Select the TV channel for the desired teletext service.
- 2 Press $\text{[} \text{/ } \text{]}$ to display the teletext service. Once $\text{[} \text{/ } \text{]}$ has been pressed, the TV channel cannot be changed.
- 3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then, re-enter the correct page number.
The requested teletext page is displayed.

To return to the TV mode, press TV.

The teletext service can be displayed directly from the standby mode by pressing $\text{[} \text{/ } \text{]}$.

To receive the teletext service of a different TV channel

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press $\text{[} \text{/ } \text{]}$.

Notes

- To receive the teletext service accurately, keep AFT inside the panel switched on during teletext operation.
- During teletext operation, do not input the RGB signals from the equipment, such as a microcomputer, connected to the 21-pin connector.

To display the index page

Press $\text{[} \text{]}$.

If the necessary signal is not being broadcast, page 100 is displayed.

To access the next or preceding page

Press $\text{[} \text{]}$ or $\text{[} \text{]}$.

To superimpose the teletext display on the TV picture

Press $\text{[} \text{/ } \text{]}$ twice from the TV mode.

Press again to return to the teletext display.

To suppress the teletext display so that the TV picture is displayed

Press $\text{[} \text{]}$.

This button can be operated from both the teletext and TV/teletext mixed modes.

To prevent a teletext page (suppage) from being updated/changed

Press . The page hold symbol appears at the top left of the screen.



To resume normal teletext reception, press  / .

To enlarge the teletext display

Press .

Press once to enlarge the upper half of the display; press again to enlarge the lower half of the display; press again to return to the normal display.

To reveal concealed information such as the answers to a quiz

Press .

Press again to conceal the answers.

To adjust the contrast of the teletext display

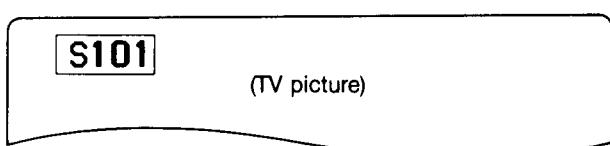
Press .

To watch the TV programme while waiting for a requested page to be displayed

1 Request a new page.

2 Press  to watch the TV programme.

When the requested page has been captured, the page number appears at the top left of the screen.



To view this page, press  / .

To have a requested page displayed at a predetermined time

1 Request a time coded page (e.g. alarm page).

2 Press .

"T****" will appear at the bottom left of the screen.

3 Enter your request time with the number buttons, using four digits.

For example, 0730.

To watch the TV programme until the requested time, press .

At the requested time, the page number will appear at the top left of the screen.

To view this page, press  / .

To cancel the request, first ensure that the teletext page is displayed, then press .

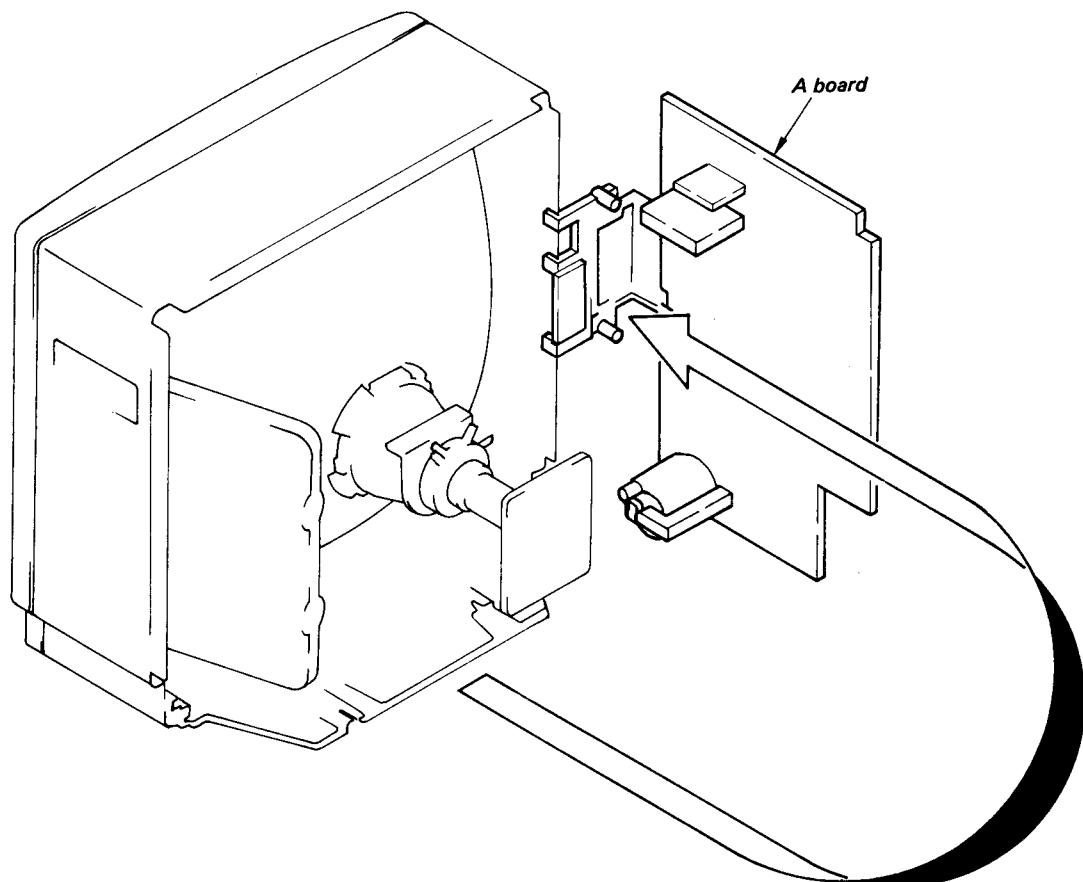
SECTION 2

DISASSEMBLY

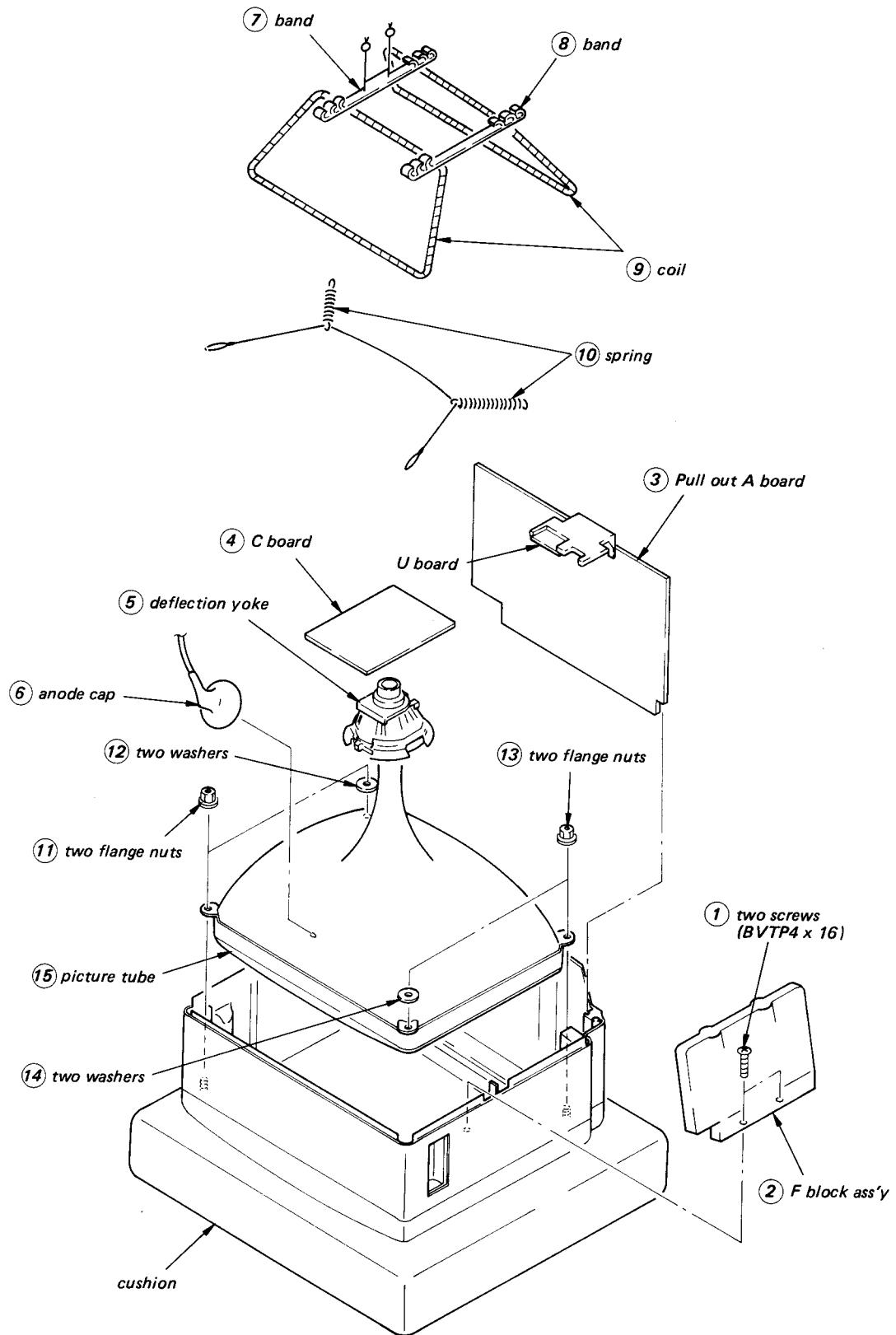
2-1. SERVICE POSITION

Note: Follow the disassembly procedure in the numerical order given.

- (1) Remove the back cover and pull out the A board, while slightly lifting the back portion of the board.
- (2) Untie all the bands which connect the connector assembly.
- (3) Hold the A board by inserting the hooks of the antenna terminal board to the edge of the cabinet, as shown in the figure below.



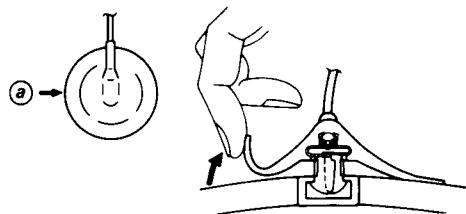
2-2. PICTURE TUBE REMOVAL



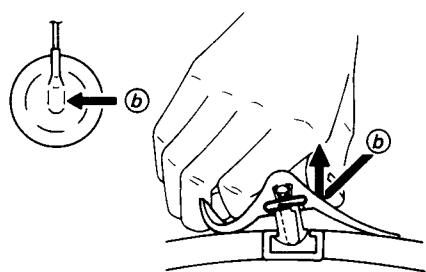
KV-19XMD

2-3. ANODE CAP REMOVAL

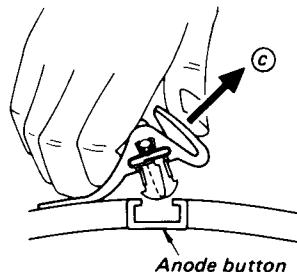
- Removing Procedures



① Turn up one side of the rubber cap in the direction indicated by the arrow (a).



② Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow (b).



③ When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow (c).

SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control normal
 BRIGHTNESS control mechanical center

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. G2 and White Balance
5. Sub Bright

Note: Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

3-1. BEAM LANDING

Preparation :

- Feed in the white pattern.
- Before stating, degauss the entire screen.
- 1. Loosen deflection yoke screw.
- 2. Adjust purity control as shown in Fig. 3-1.
- 3. Slide deflection yoke as far forward as it will go.
- 4. Turn the raster signal of the pattern generator to red.
- 5. Adjust purity control to center vertical red band as shown in Fig. 3-2.
- 6. Slide deflection yoke back for a uniform red screen.
- 7. Check green and blue rasters for uniformity by performing the same way as steps 4, 5 and 6.
- 8. Tighten the deflection yoke screw.
- 9. Check if mislanding appear at corners a-d as shown in Fig. 3-3. If mislanding is observed, correct it as shown in Fig. 3-3.
- 10. Confirm that beam landing is correct when the receiver is faced in all directions.

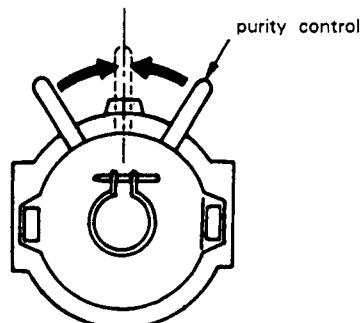


Fig. 3-1.

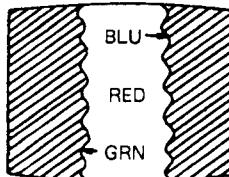


Fig. 3-2.

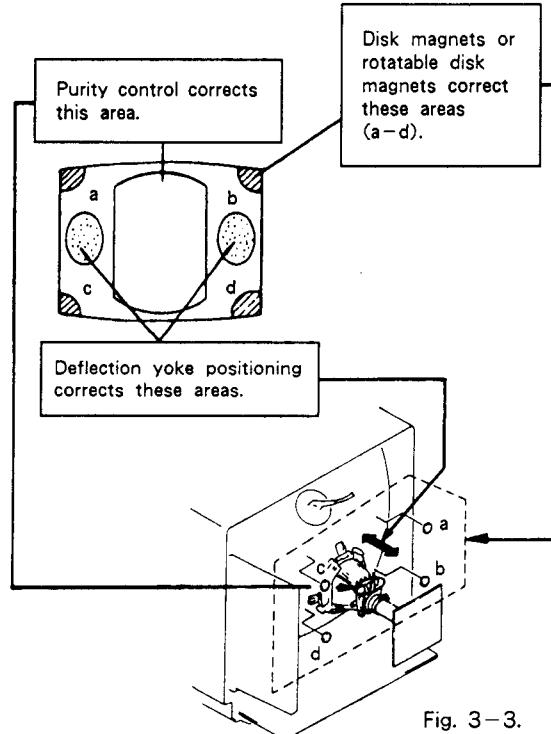
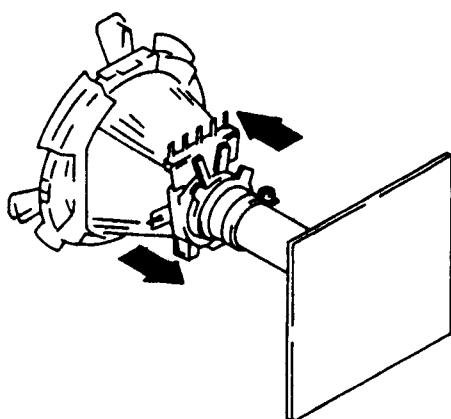


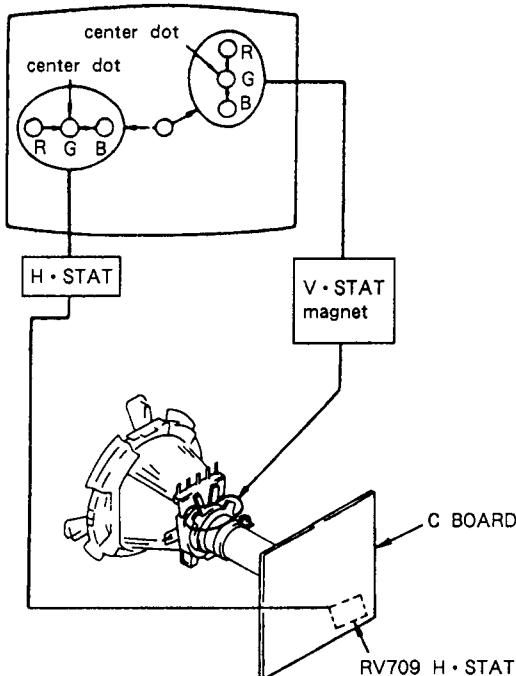
Fig. 3-3.

3-2. CONVERGENCE

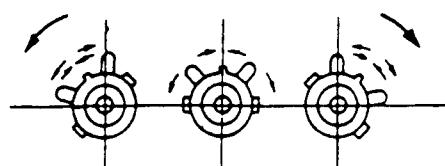
Preparation :

- Before starting, perform FOCUS, H · SIZE and V · SIZE adjustment.
- Set BRIGHT control to minimum.
- Feed in the dot pattern.

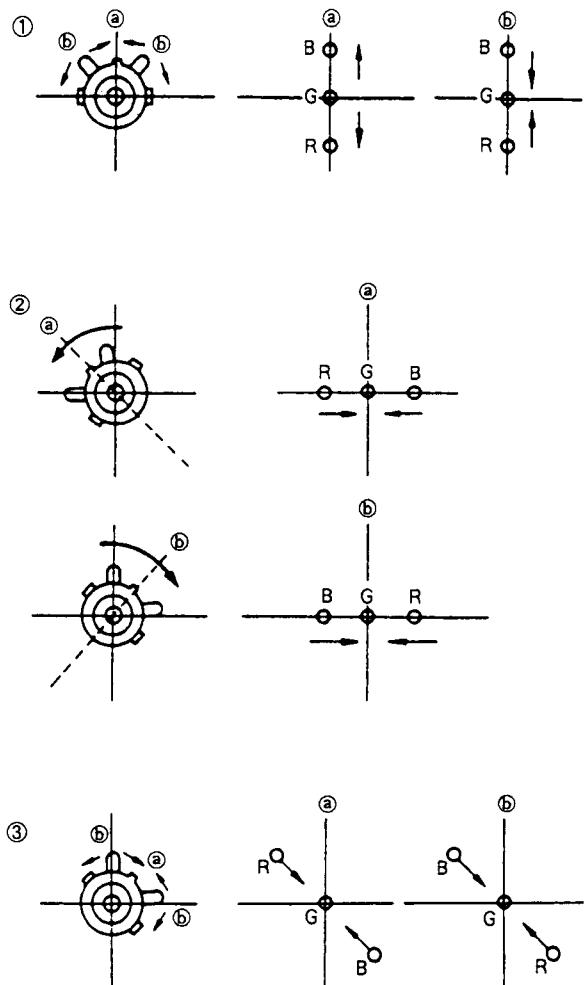
(1) Horizontal and Vertical Static Convergence



1. Adjust H · STAT VR to coincide red, green and blue dots on the center of screen (Horizontal movement).
2. Adjust V · STAT magnet to coincide red, green and blue dots on the center of screen (Vertical movement).
3. If the red, green and blue dots do not coincide on the center of screen with H · STAT VR, perform horizontal convergence adjustment using H · STAT VR and V · STAT magnet as shown below. (In this case, H · STAT VR and V · STAT magnet effect each other.)
- Tilt the V · STAT magnet and adjust static convergence to open or close the V · STAT magnet.



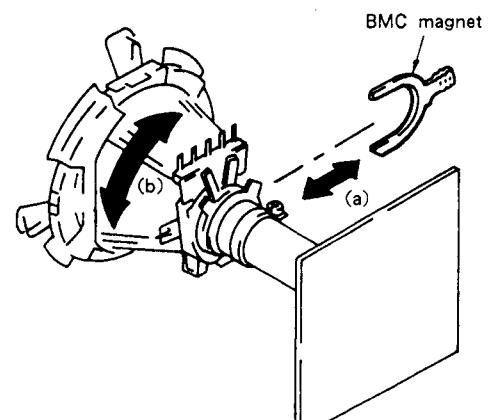
4. When the V · STAT magnet is moved in the direction of arrow ① and ②, red, green and blue dots move as shown below.



If blue dot does not coincide with red and green dots, perform following steps.

- Move BMC magnet (a) to correct insufficient H · static convergence.
- Rotate BMC magnet (b) to correct insufficient V · static convergence.

In either case, repeat Beam Landing Adjustment.

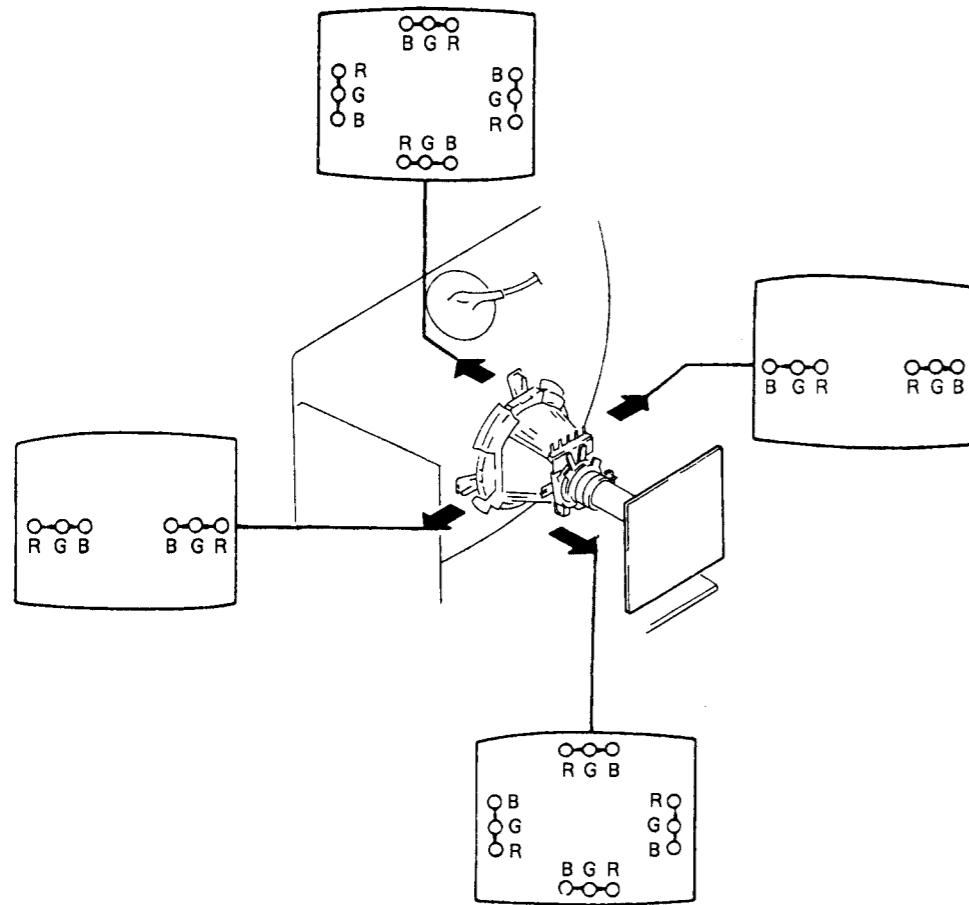


(2) Dynamic Convergence Adjustment

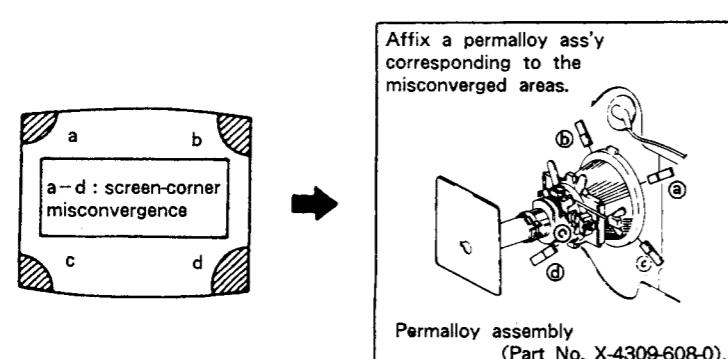
Preparation :

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.



(3) Screen-corner Convergence



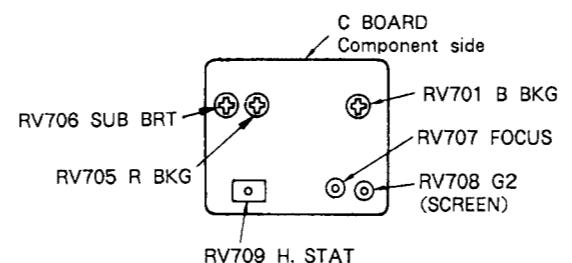
3-3. FOCUS

Adjust RV707 (FOCUS) control for a best picture.

3-4. G2 AND WHITE BALANCE

(1) G2 ADJ.

1. Receive dot signal.
2. Set PIC and BRT control to minimum.
3. Connect external power supply 180 V dc to R.G.B cathode.
4. Adjust G2 VR RV708 to the point where retrace glows faintly.

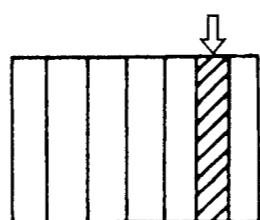


(2) WHITE BALANCE

1. Receive WHITE signal.
2. Set PIC, BRT and COL to normal.
3. Adjust R.B BKG VRS (RV705, RV701) to get white balance.

3-5. SUB BRT

1. Receive color-bar signal.
2. Set PIC, COL control to minimum and BRT VR to center.
3. Adjust SUB BRT (RV706) to the point where the arrow indicate.

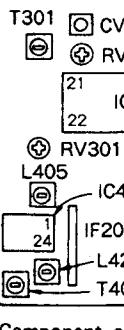


4-1. F

+115 V

1. Connect (+115 V).
2. Adjust multime

4-2. A



TU AGC

1. Tune i
2. Adjust cross-m

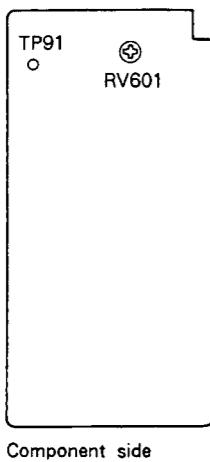
SECTION 4

CIRCUIT ADJUSTMENTS

4-1. F BOARD ADJUSTMENT

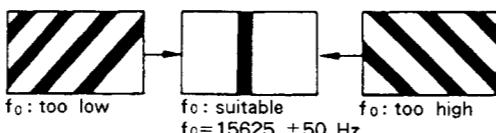
+115 V (RV601)

1. Connect a digital multimeter to the TP91. (+115 V LINE)
2. Adjust RV601 for 115 ± 0.2 V dc on the digital multimeter.



H · FREQ (RV501)

1. Receive PAL signal.
2. Connect an electrolytic capacitor (100 μ F/16 V) between pin (1) of IC501 and ground.
3. Adjust RV501 so that picture flowing in horizontal direction stops.
4. Removal a electrolytic capacitor from IC501.



H · CENT (RV504), H · SIZE (RV873)

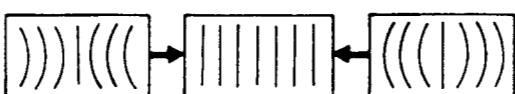
1. Receive a cross-hatch signal.
2. Set the PICTURE and BRIGHT controls to normal.
3. Adjust H-CENTER TAP (A-15), H-CENT (RV504) and H-SIZE (RV873) for best picture.

V · CENT (RV551), V · SIZE (RV503), V · LIN (RV502)

1. Receive a cross-hatch signal.
2. Set the PICTURE and BRIGHT controls to normal.
3. Adjust V-CENT (RV551), V-SIZE (RV503) and V-LIN (RV502) for best picture.

PIN AMP (RV875)

Adjust RV875 to make vertical lines straight as shown.

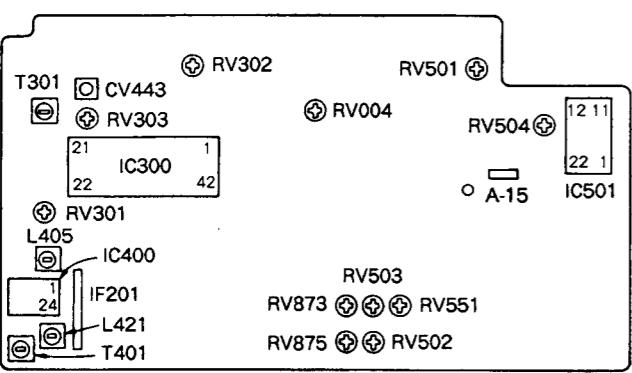


ACC (RV302)

1. Receive PAL color-bar signal.
2. Connect an oscilloscope to the pin (7) of IC300.
3. Adjust RV302 for 180 ± 5 mVp-p on the oscilloscope as shown in figure.



4-2. A BOARD ADJUSTMENTS



TU AGC (IF201)

1. Tune in an off-air signal.
2. Adjust AGC VR (IF201) so that snow-noise and cross-modulation just disappear from the picture.

CW OSC (CV443)

1. Receive PAL color-bar signal.
2. Short circuit between pins (11) and (12) of IC300 with jumper wire.
3. Supply voltage DC4.5 V to the pin (3) of IC300.
4. Adjust CV443 to obtain the stable color picture.
5. Removal a jumper wire from IC300.

ANTI-PAL (RV301, RV303), LINE CRAWLING (T301)

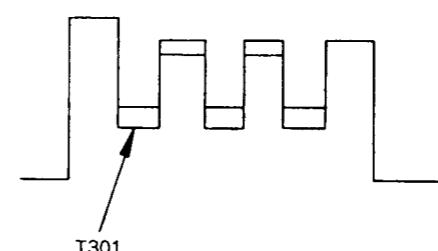
• ANTI-PAL ADJUSTMENT

1. Input the PAL color-bar signal.
2. Set the PICTURE, COLOR and BRT control to normal.
3. Observe the pin (27) of IC300 (Blue) output waveform shown in the oscilloscope.
4. Adjust RV301 (DELAY) and RV303 (PHASE) to obtain the waveform as shown below.



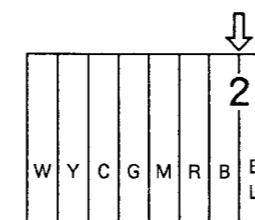
• LINE CRAWLING ADJUSTMENT

1. Input the PAL color-bar signal.
2. Set the PICTURE, COLOR and BRT control to normal.
3. Observe the pin (27) of IC300 (Blue) output waveform shown in the oscilloscope.
4. Adjust T301 for minimum line crawling.



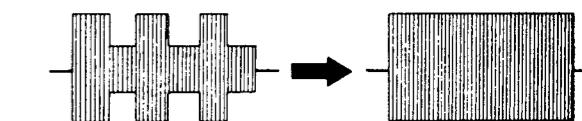
CHARACTER POSITION (RV004)

1. Receive PAL color-bar signal.
2. By adjusting RV004, replace the character express to the point indicated by the arrow below.



COLOR BALANCE (T401, L405, L421)

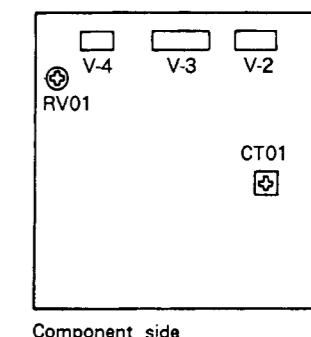
1. Feed in a SECAM color-bar signal.
2. Connect an oscilloscope to the pin 24 of IC400 via 2pF capacitor.
3. Adjust T401 at shown the following figure.



4. Connect the dual-trace-oscilloscope to the emitter of Q401 and Q402 (R-Y, B-Y)
5. Adjust L421 (B-Y) and L405 (R-Y) at shown the following figure.



4-3. V BOARD ADJUSTMENTS (KV-19XMTD only)



CLOCK (CT01)

1. Disconnect V-1 connector.
2. Set the Teletext mode.
3. Connect digital multimeter to pin (9) of IC03.
4. Adjust CT01 to 6.0 MHz ± 250 Hz.

PIC LEVEL (RV01)

Adjust RV01 in order to have 2.1 V in R.G.B output level (black level to white peak). [V-3 connector]

SECTION 5 DIAGRAMS

5-1. PRINTED WIRING BOARDS - *Conductor Side* -

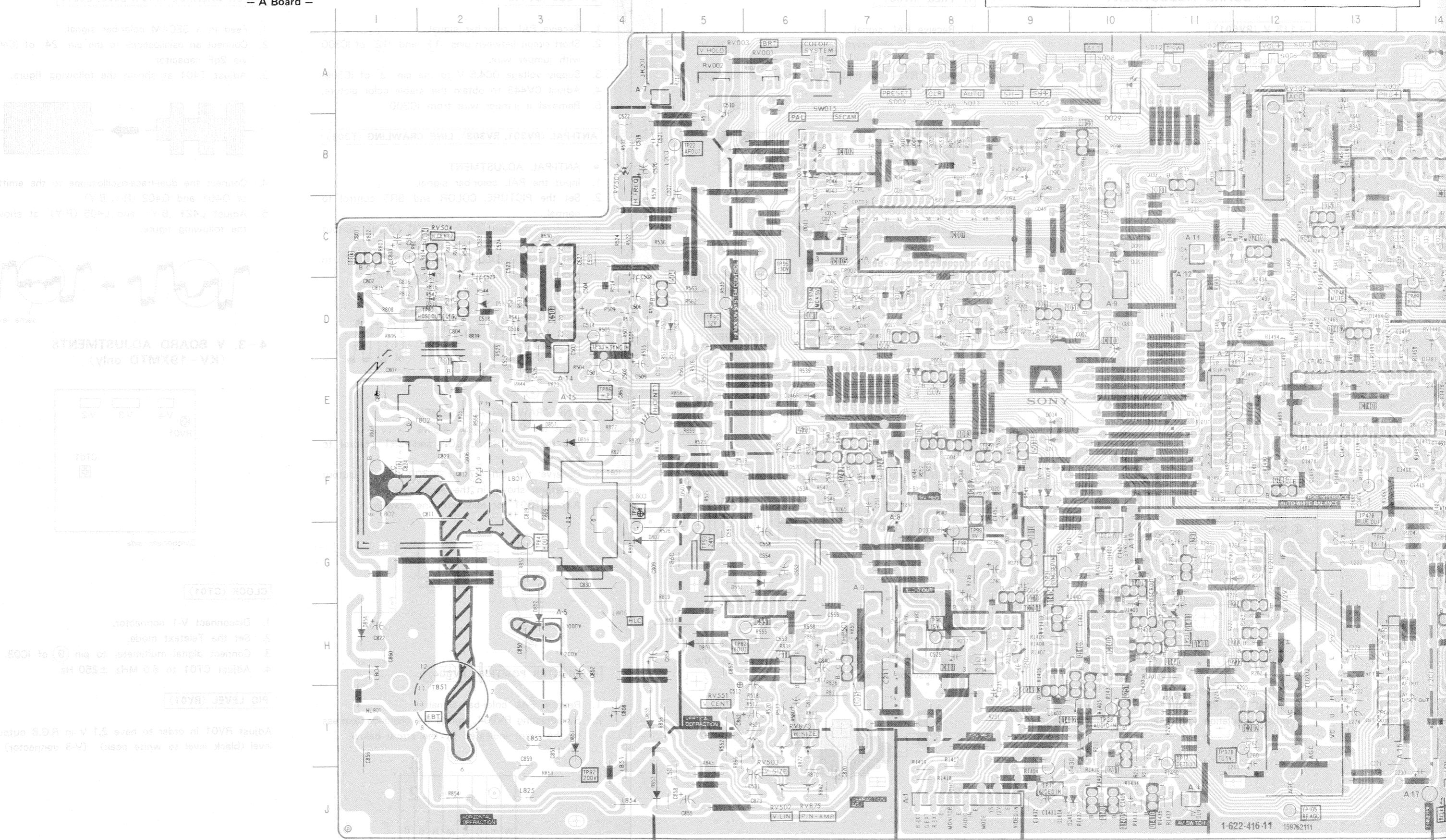
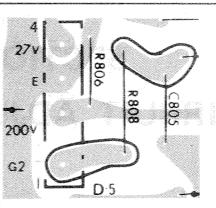
- A Board -



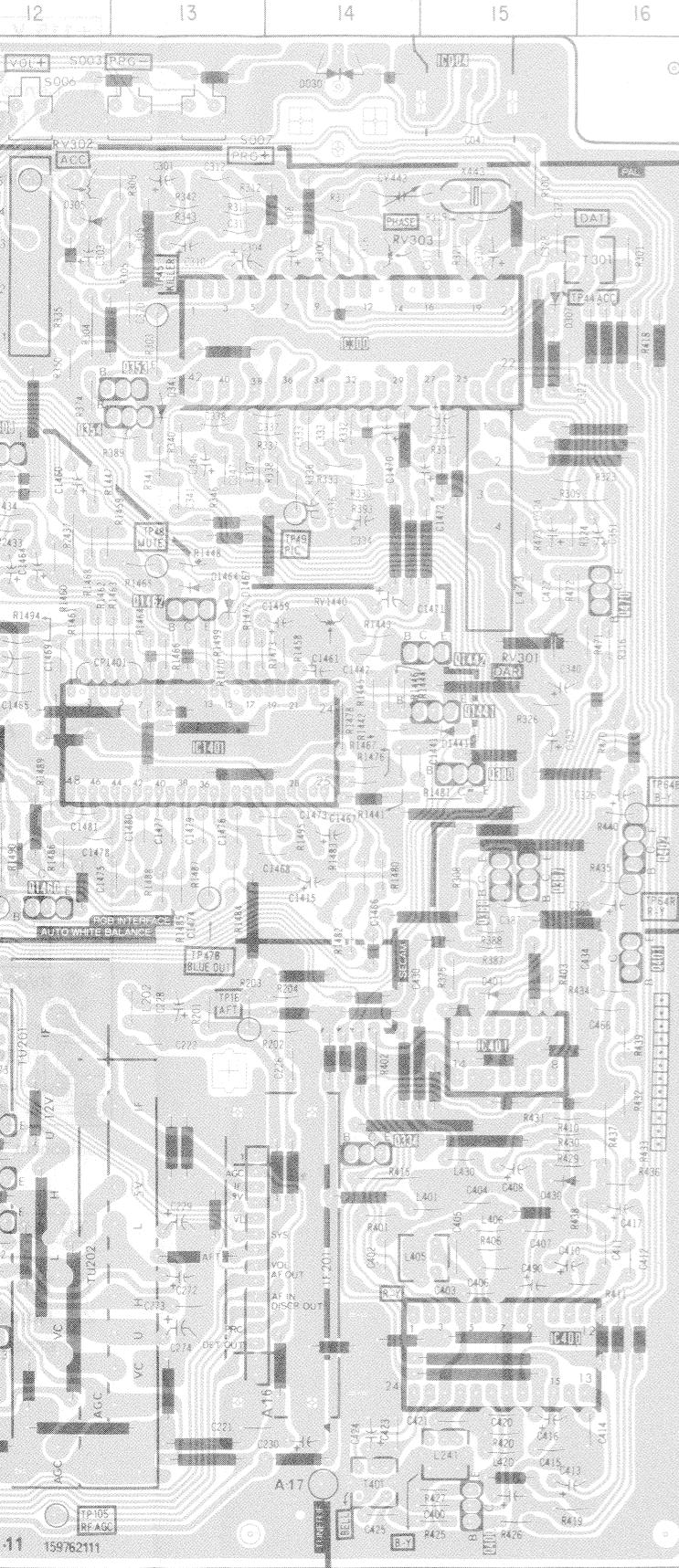
TUNING, MEMORY, AUDIO OUT, Y/C PROCESS,
ECAM PROCESS, SYSTEM SW, R-G-B INTERFACE,
DEFLECTION, H. V OUT

NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



contains high voltage of over
to prevent an electric shock in



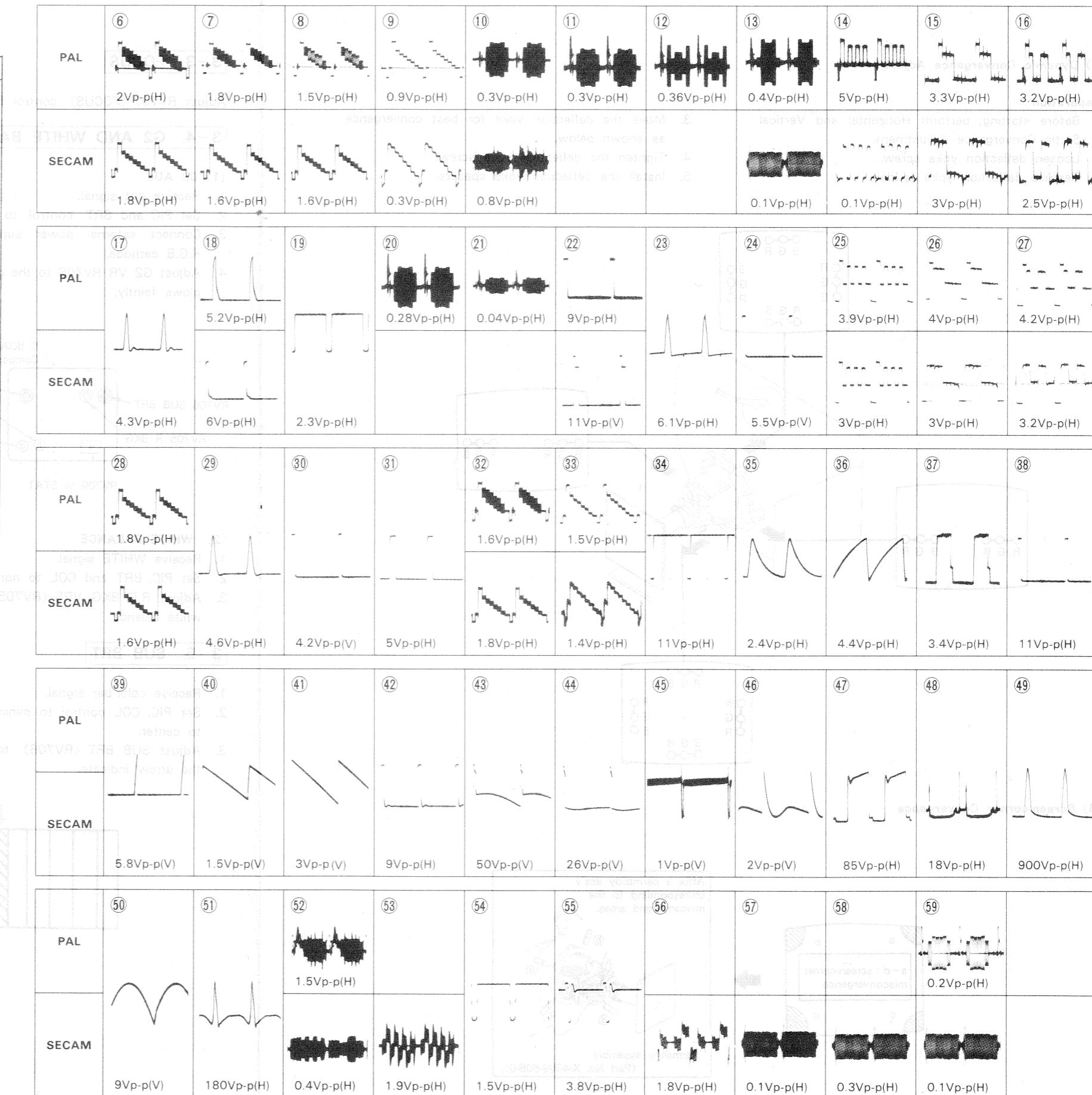
WAVEFORMS A BOARD

KV-19XMD/19XMTD
RM-652 RM-654

WAVEFORMS A BOARD

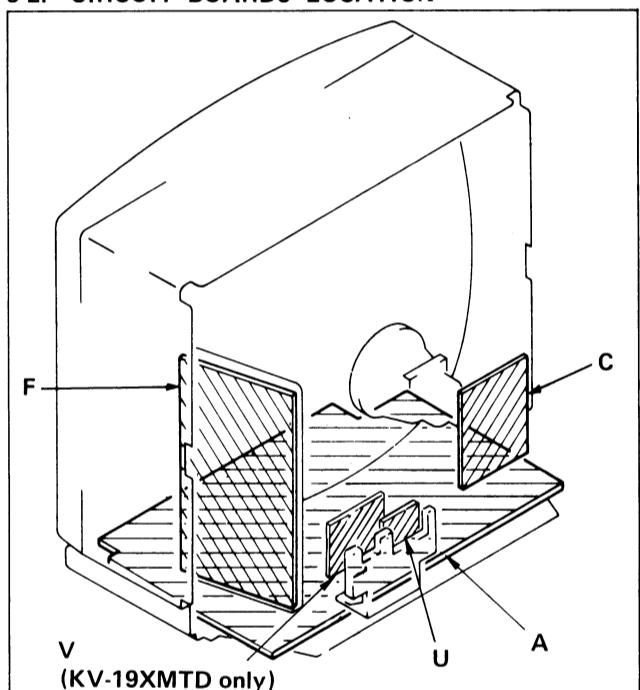
KV-19XMD/19XMTD
RM-652 RM-654

IC		DIODE	
IC001	C-8	D001	D-8
IC002	B-7	D003	D-9
IC003	D-10	D004	D-7
IC004	A-15	D006	B-8
IC005	C-7	D007	B-6
IC201	H-8	D008	B-6
IC202	I-12	D010	B-8
IC300	C-14	D011	C-6
IC400	H-15	D014	F-9
IC401	I-15	D017	B-6
IC501	D-3	D027	F-9
IC551	H-6	D029	A-1
IC801	H-8	D030	A-1
IC802	F-9	D031	F-8
IC1401	E-13	D032	E-8
IC1402	H-10	D033	G-8
TRANSISTOR		TRANSISTOR	
Q001	D-9	D051	B-8
Q002	E-8	D079	D-9
Q005	C-10	D081	D-7
Q009	D-8	D084	F-5
Q010	G-9	D211	F-9
Q031	B-11	D242	F-7
Q050	F-9	D305	B-1
Q055	B-10	D307	B-1
Q056	D-10	D341	D-1
Q063	F-8	D401	G-1
Q081	D-7	D430	H-1
Q084	F-8	D501	F-5
Q201	I-10	D502	D-5
Q210	H-9	D503	D-5
Q242	F-7	D520	F-6
Q243	F-7	D551	G-6
Q272	H-12	D801	H-5
Q273	H-12	D802	G-4
Q274	G-12	D811	D-2
Q291	G-11	D851	I-4
Q334	H-14	D852	H-3
Q353	C-13	D853	J-5
Q354	C-13	D854	H-1
Q380	E-15	D855	I-4
Q387	F-15	D856	E-4
Q388	F-15	D857	E-3
Q400	J-15	D1403	H-10
Q401	F-16	D1404	D-1
Q402	F-16	D1414	J-9
Q470	D-16	D1415	J-10
Q503	F-9	D1431	C-12
Q504	D-5	D1441	E-18
Q520	F-7	D1464	D-12
Q801	E-2	D1465	E-8
Q802	F-1	D1466	E-6
Q803	C-1	D1467	D-13
Q804	C-2	TRAIMER CAPACITOR	
Q805	H-7	CV443	B-14
Q811	H-6	VARIABLE RESISTOR	
Q1401	H-11	RV004	B-9
Q1402	I-10	RV301	E-15
Q1403	I-9	RV302	A-12
Q1405	J-10	RV303	B-14
Q1406	G-10	RV501	B-4
Q1407	H-11	RV502	I-6
Q1408	I-10	RV503	I-6
Q1409	J-10	RV504	C-2
Q1410	J-11	RV551	I-6
Q1440	H-11	RV873	I-6
Q1441	E-15	RV875	I-6
Q1442	E-15		
Q1460	F-12		
Q1462	D-13		
Q2408	C-12		



IC001	TUNING	Q400	VIDEO BUFF	D031	OFF MUTE
IC002	MEMORY	Q401	R-Y BUFF	D032	MUTE
IC003	+33V REG	Q402	B-Y BUFF	D033	DISCHARGE
IC004	REMOCON	Q470	IH AMP	D066	TXT SW
IC005	RESET	Q503	SYNC BUFF	D067	CLK PROTECT
IC201	AUDIO AMP	Q504	ABL AMP	D068	TXT D PROTECT
IC300	Y/C PROCESS	Q801	H DRIVE	D079	PIC D/A
IC400	SECAM PROCESS	Q802	H OUT	D081	+5V REG
IC401	SYSTEM SW	Q803	STB	D084	OFF MUTE
IC501	DEFLECTION	Q804	H. P AMP	D211	AGC REDUCE
IC551	V OUT	Q805	PIN MOD	D220	PROTECT
IC801	+12V REG	Q811	PIN MOD OUT	D242	BRT ABL
IC802	+9V REG	Q1401	TV BUFF	D305	ACC
IC1401	R+G+B INTERFACE	Q1402	AV BUFF	D307	C OUT SW
IC1402	SIGNAL SW	Q1403	VIDEO BUFF-1	D341	H. P SLICE
		Q1404	TEXT SYNC	D401	C SW
Q001	VC CONV	Q1405	VIDEO BUFF	D430	D SYNC CLAMP
Q002	SOUND MUTE	Q1406	AV/TV SW	D501	BACK UP
Q005	RESP SW	Q1407	TV MUTE	D502	V SYNC
Q009	ST-BY SW	Q1408	VIDEO MUTE	D503	V HOLD
Q010	ON MUTE	Q1409	DC CLAMP		
Q031	SYNC DETECT	Q1410	DC CLAMP	D551	PUMP UP
Q050	ON MUTE	Q1440	AV/TV SW	D801	PROTECT-1
Q055	HP INVERT	Q1441	BLK DELAY	D802	PROTECT-2
Q056	COL CONT BUFF	Q1442	BLK DELAY	D811	PROTECT
Q063	OFF MUTE	Q1460	AWB DRIVE SW	D851	+200V RECT
Q081	+5V REG	Q1462	V DELAY BLK	D852	+1000V RECT
Q084	OFF MUTE DET	Q2408	TXT SW	D853	+15V RECT
Q201	BUFF			D854	+25V RECT
Q210	ON MUTE	D001	VOL D/A	D855	-30V RECT
Q242	PIC ABL	D003	COL D/A	D856	H CENT-1
Q243	BRT ABL	D004	PROTECT	D857	H CENT-2
Q251	AUDIO MUTE	D006	KEY MATRIX-1	D1401	SYNC SW-1
Q272	VL SW	D007	KEY MATRIX-2	D1402	SYNC SW-2
Q273	VH SW	D008	KEY MATRIX-3	D1403	PROTECT
Q274	U SW	D010	KEY MATRIX-4	D1414	DC CLAMP-1
Q291	VC FILTER	D011	-30V REG	D1415	DC CLAMP-2
Q334	SECAM SW	D014	AGC REDUCE	D1431	TV/TEXT SW
Q353	SYSTEM SW	D017	KEY MATRIX-5	D1441	BLK DELAY
Q354	COL SW-2	D025	RESET	D1464	DELAY BLK-1
Q380	PAL SW	D027	ON MUTE	D1465	DELAY BLK-2
Q387	COL DET	D029	AFT LED		
Q388	COL MUTE	D030	STBY LED	D1467	PIC CONT

5-2. CIRCUIT BOARDS LOCATION



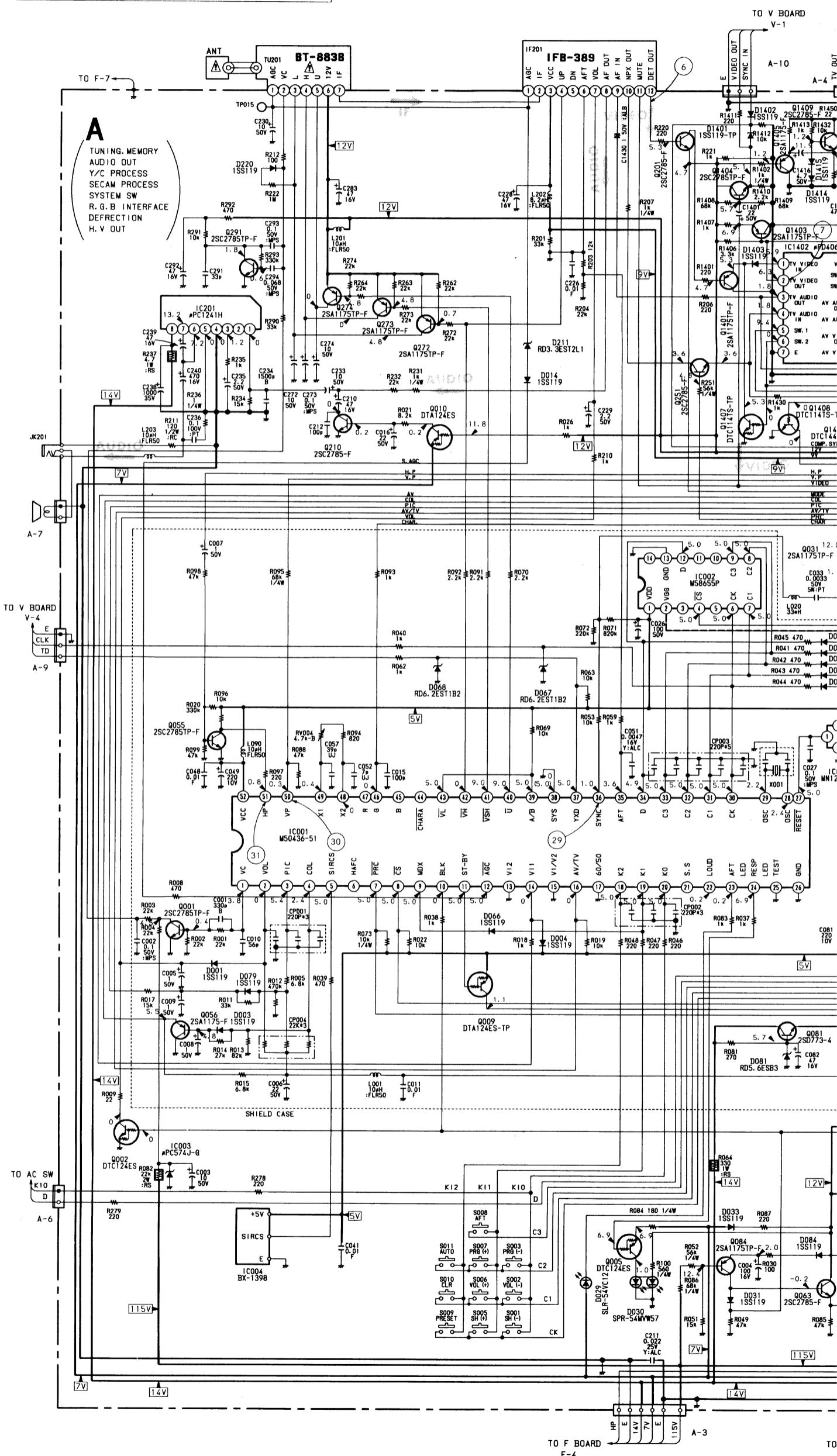
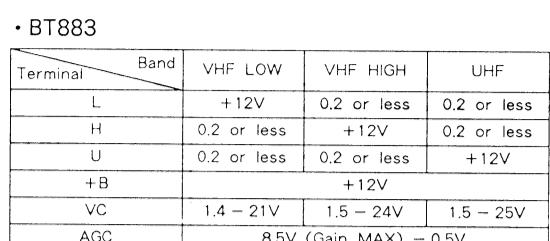
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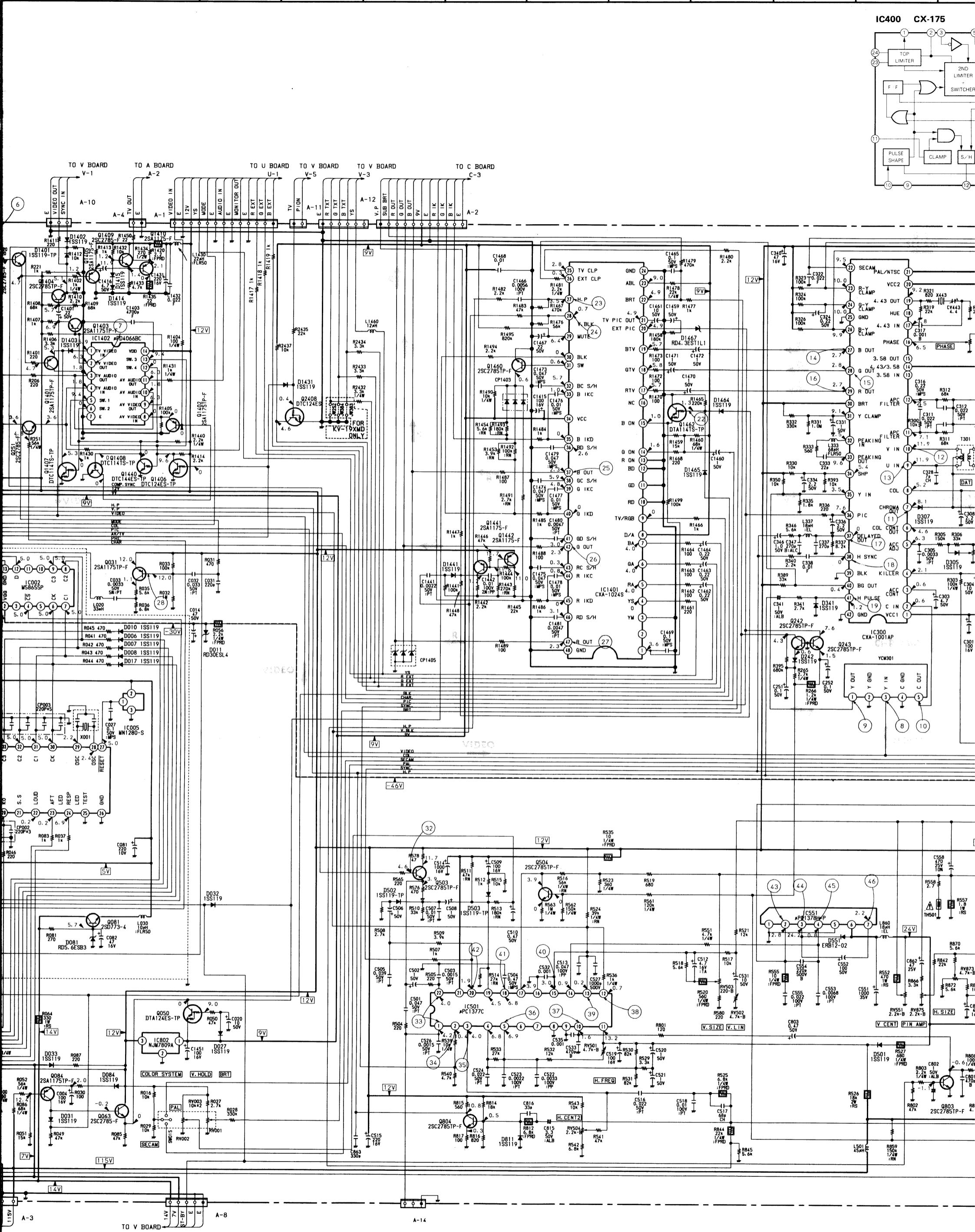
- Note:
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
 50V or less are not indicated except for electrolytics.
- All resistors are in ohms, $1/4\text{W}$ unless otherwise noted.
 k : 1000Ω , M : $1000 \text{k}\Omega$
-  : nonflammable resistor.
- \triangle : internal component.
-  : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Readings are taken with a $10 \text{ M}\Omega$ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
no mark: with PAL color-bar signal received.
(): with SECAM color-bar signal received.
-  : adjustment for repair.
-  : $\text{B}+$ bus.
-  : $\text{B}-$ bus.
-  : signal path.

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Reference information

REFERENCE INFORMATION	
RESISTOR :	RN METAL FILM
:	RC SOLID
:	FPRD NONFLAMMABLE CARBON
:	FUSE NONFLAMMABLE FUSIBLE
:	RS NONFLAMMABLE WIREWOUND
:	RB NONFLAMMABLE CEMENT
COIL :	LF-8L MICRO INDUCTOR
CAPACITOR:	TA TANTALUM
:	PS STYROL
:	PP POLYPROPYLENE
:	PT MYLAR
:	MPS METALIZED POLYESTER
:	MPP METALIZED POLYPROPYLENE
:	ALB BIPOLAR
:	ALT HIGH TEMPERATURE





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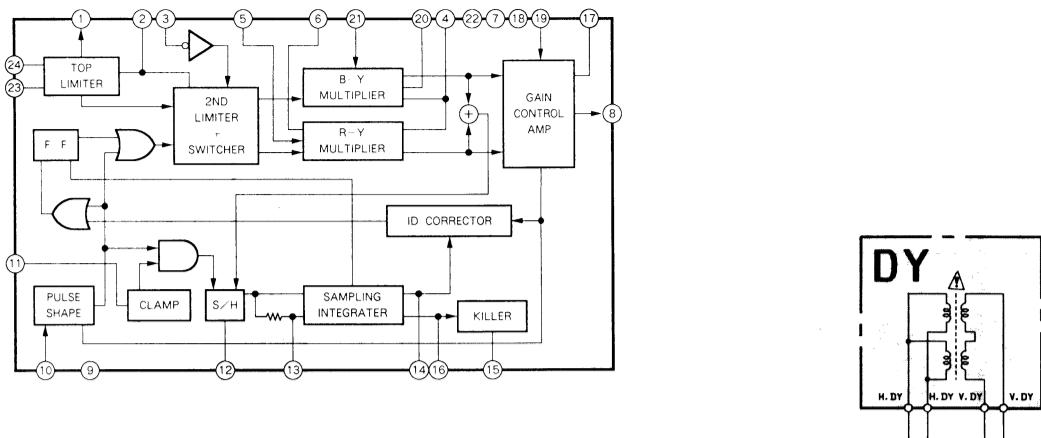
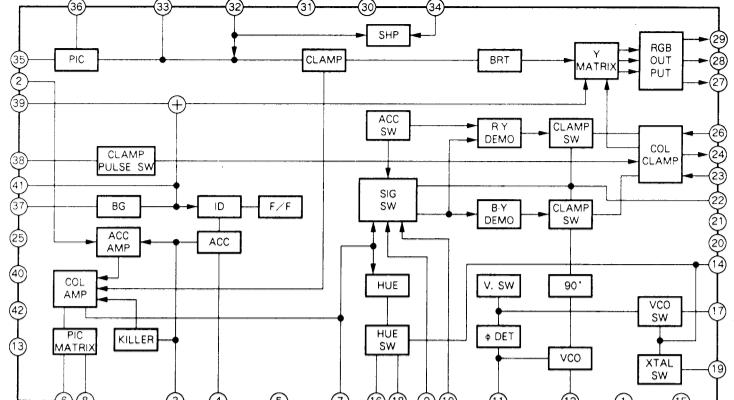
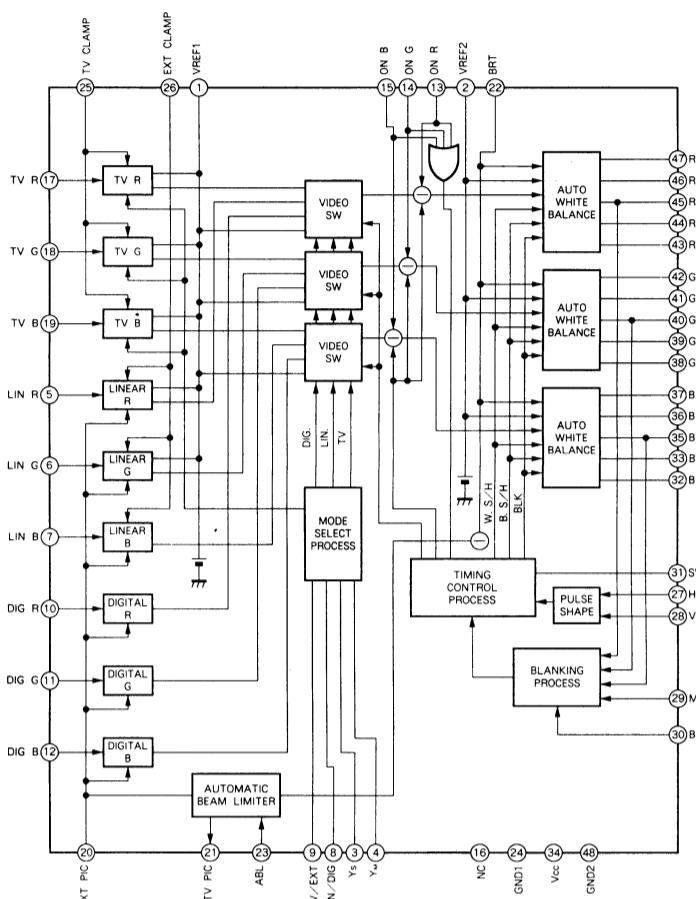
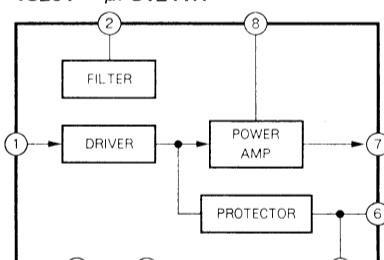
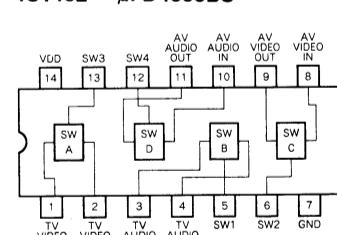
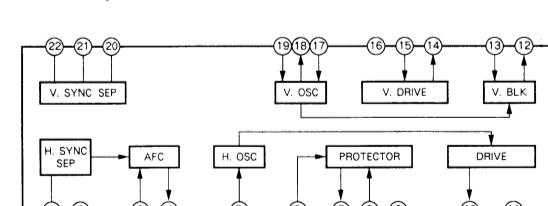
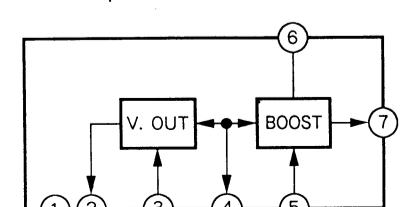
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IC400 CX-175**IC300 CXA1001AP****IC1401 CXA1024S****IC201 μPC1241H****IC1402 μPD4066BC****IC501 μPC1377C****IC551 μPC1378H-L**

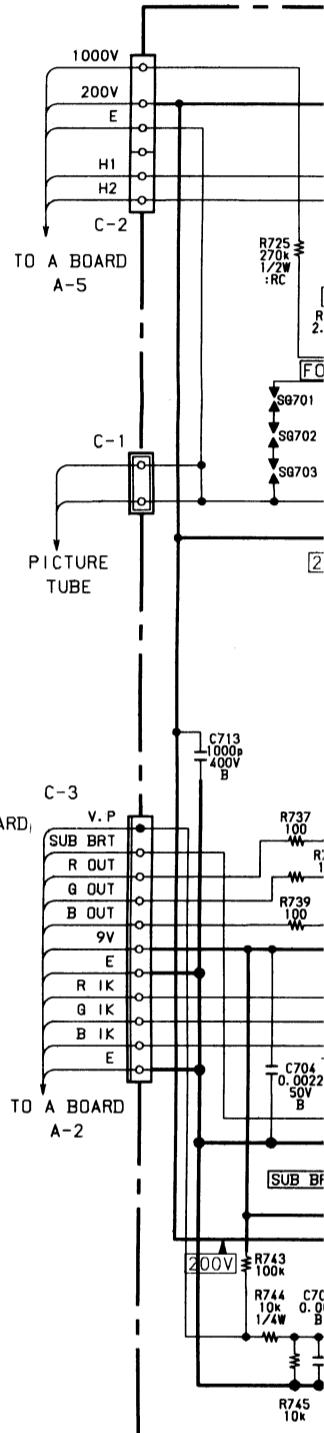
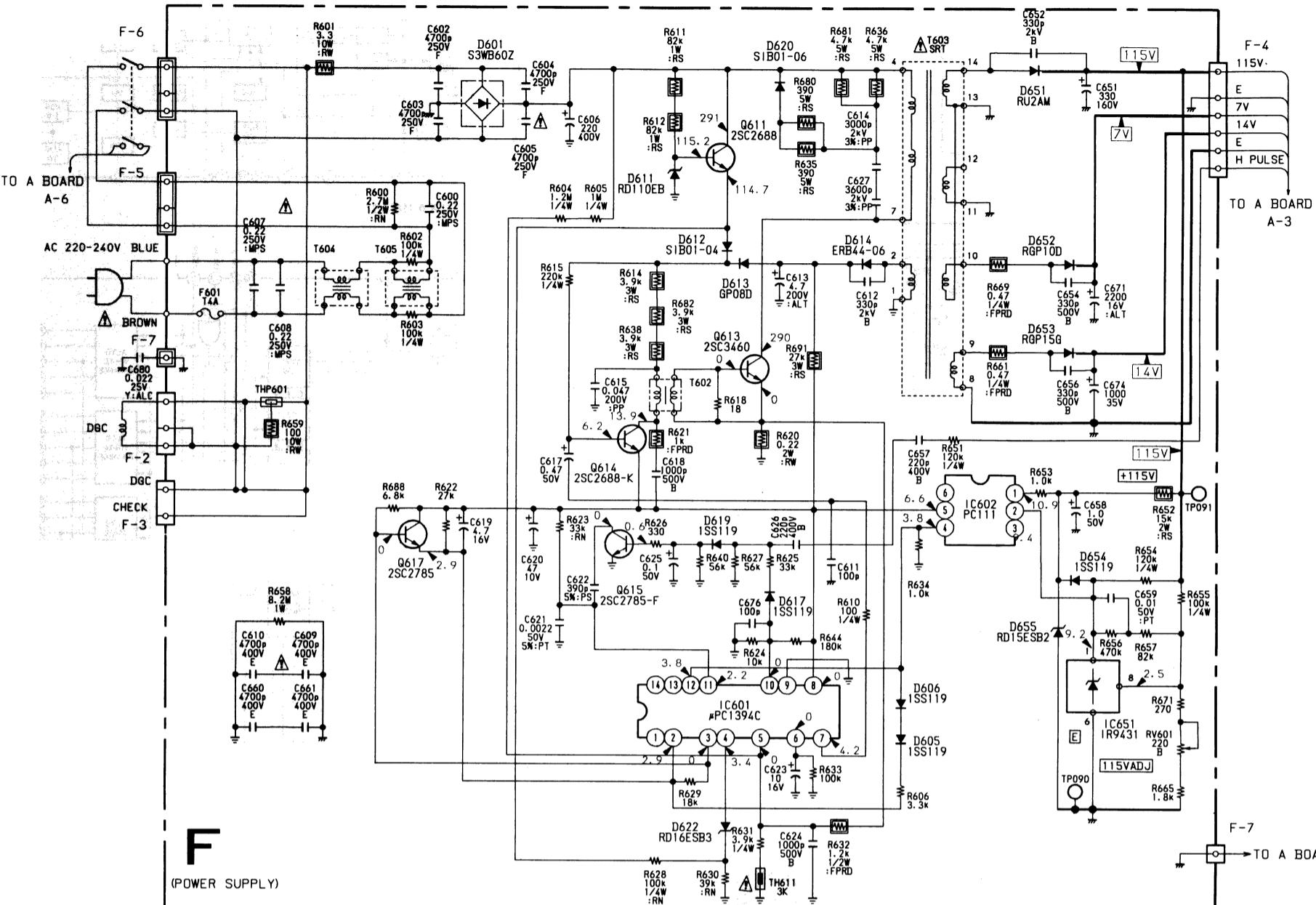
1 2 3 4 5 6 7 8 9 10 11

F BOARD

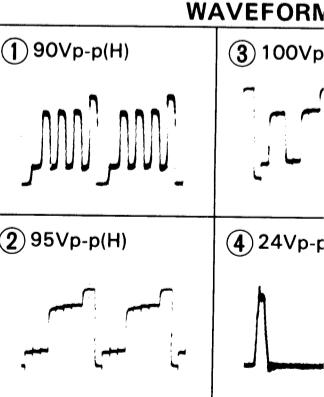
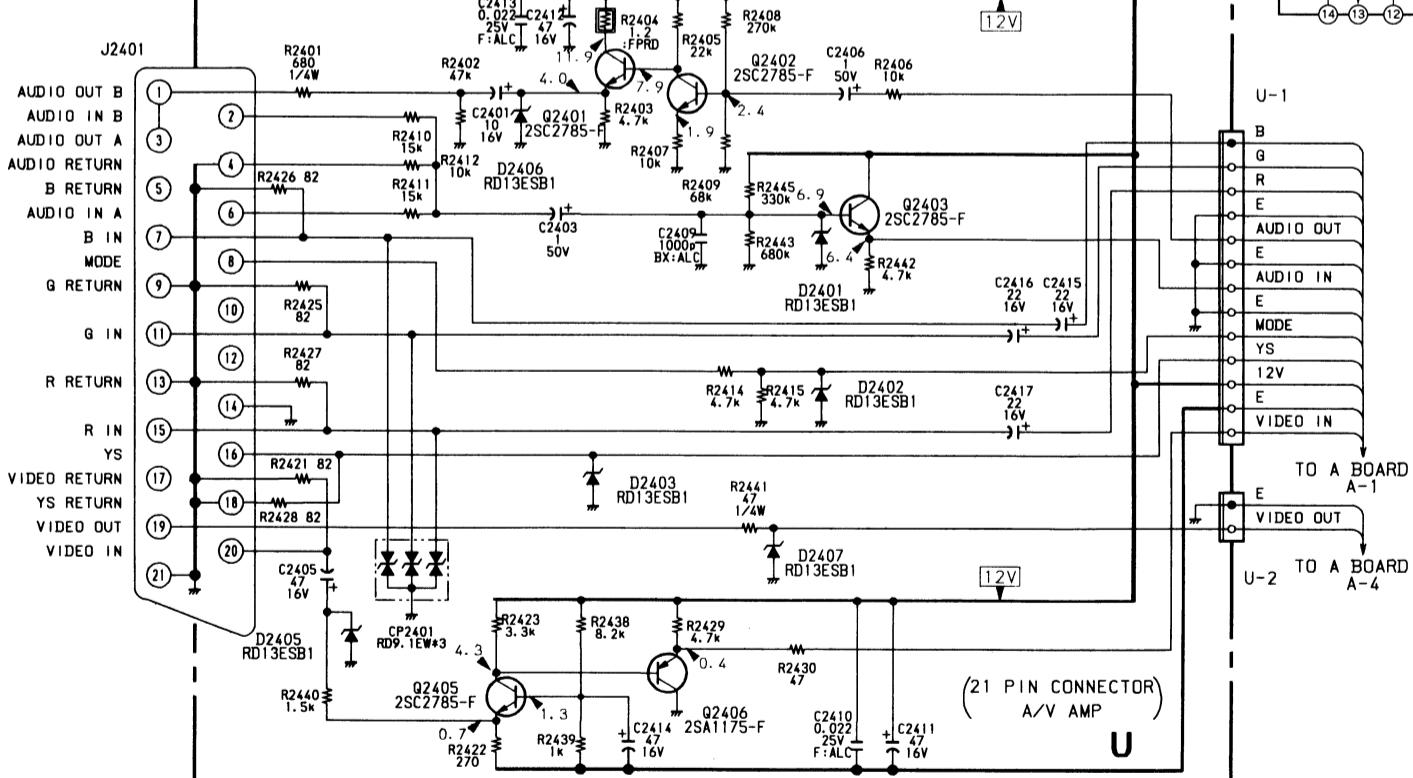
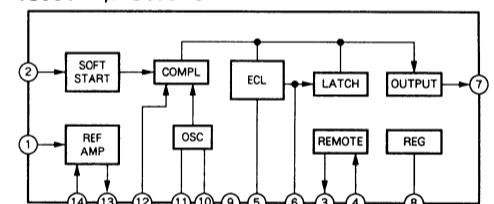
IC601	REG CONT	Q611	START	Q617	SOFT START	D606	PROTECT-3	D614	DRIVE RECT	D622	LOW VOLTAGE	D654	PROTECT-1
IC602	ISOLATION	Q613	CONV TR			D611	START	D617	H PULSE RECT	D651	+B RECT	D655	SHUNT REG
IC651	SHUNT REG	Q614	DRIVE	D601	LINE RECT	D612	START	D619	H PULSE RECT	D652	+7V RECT		
		Q615	FO-SHIFT	D605	PROTECT-2	D613	BACK UP	D620	AC CLIPPER	D653	AUDIO 15V RECT		

C BOARD

Q701	B AMP-1	Q705	GK
Q702	G AMP-1	Q706	RIK
Q703	R AMP-1	Q707	B A
Q704	BIK DETECT	Q708	G A



IC601 μ PC1394C



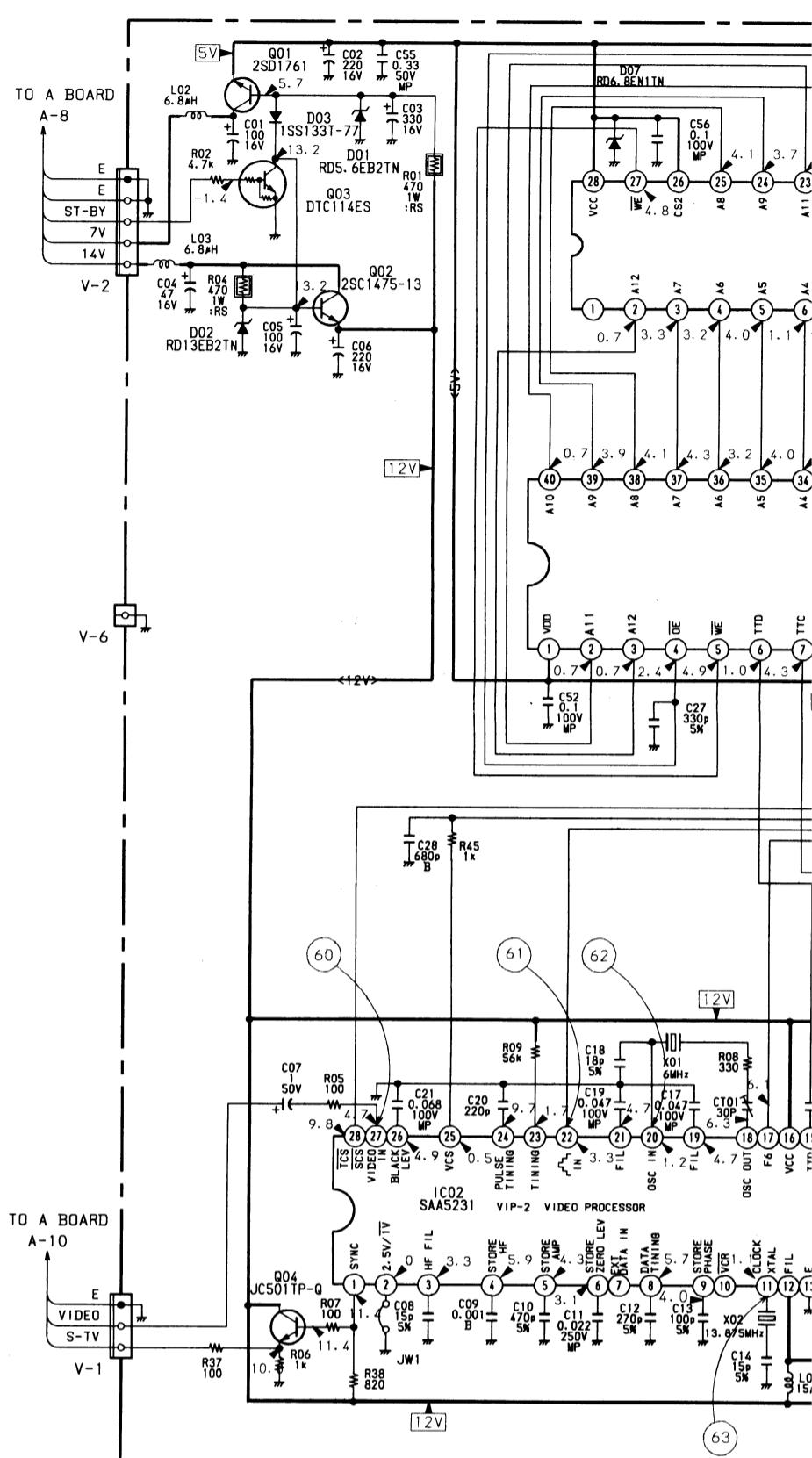
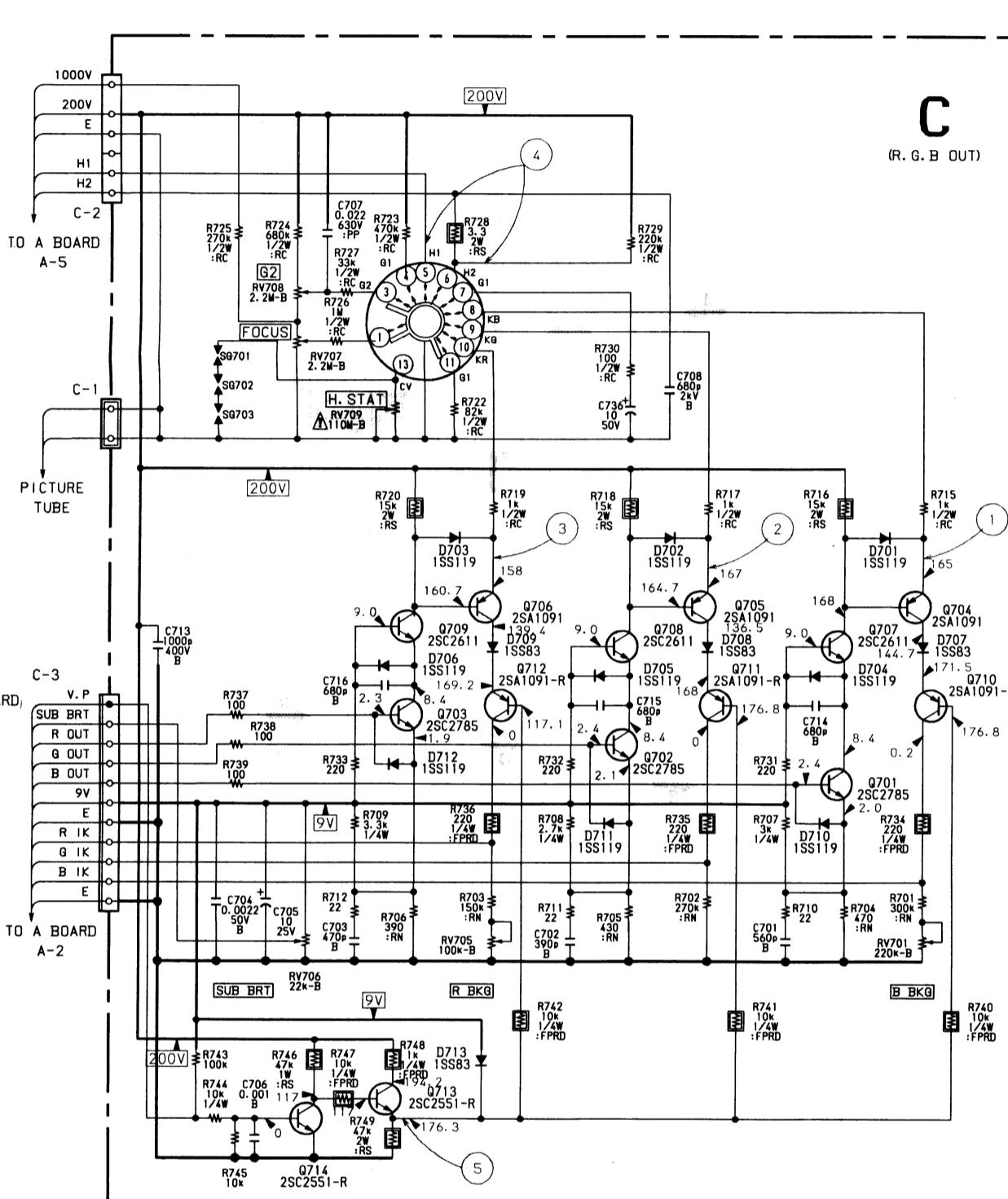
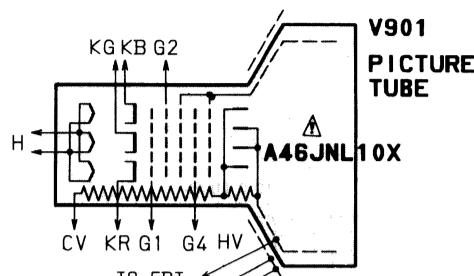
U BOARD

Q2401	AUDIO OUT	Q2406	VIDEO IN BUFF	D2403	PROTECT-3
Q2402	AUDIO AMP			D2404	PROTECT-4
Q2403	AUDIO IN BUFF	D2401	PROTECT-1	D2405	PROTECT-5
Q2405	VIDEO IN AMP	D2402	PROTECT-2	D2406	PROTECT-6

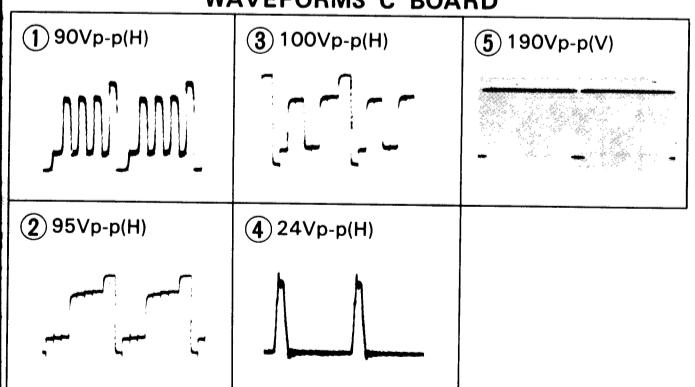
MC-Service

C BOARD

Q701	B AMP-1	Q705	GIK DETECT	Q709	R AMP-2	Q713	SW BUFF	D702	PROTECT-2	D706	PROTECT-6	D710	PROTECT-7
Q702	G AMP-1	Q706	RIK DETECT	Q710	B SW	Q714	SW INV	D703	PROTECT-3	D707	B. IK SW	D711	PROTECT-8
Q703	R AMP-1	Q707	B AMP-2	Q711	G SW	Q715		D704	PROTECT-4	D708	G. IK SW	D712	PROTECT-9
Q704	BIK DETECT	Q708	G AMP-2	Q712	R SW	Q716	PROTECT-1	D705	PROTECT-5	D709	R. IK SW	D713	CLAMP

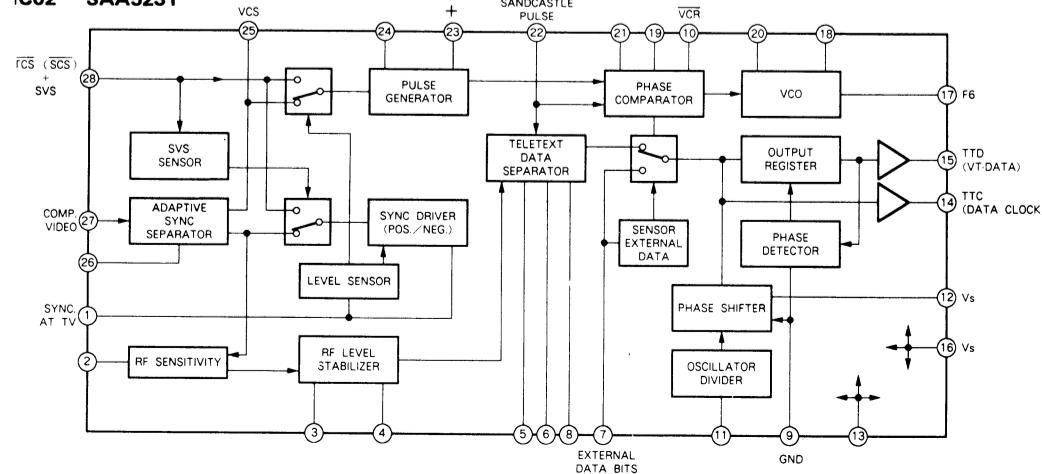


WAVEFORMS C BOARD

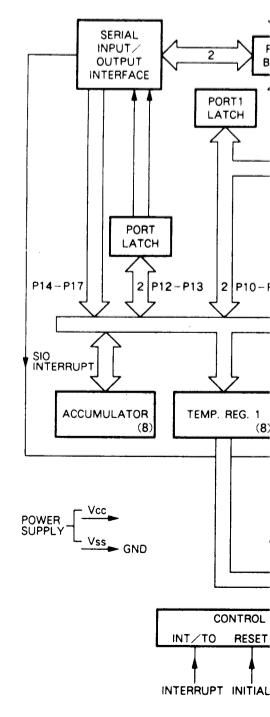


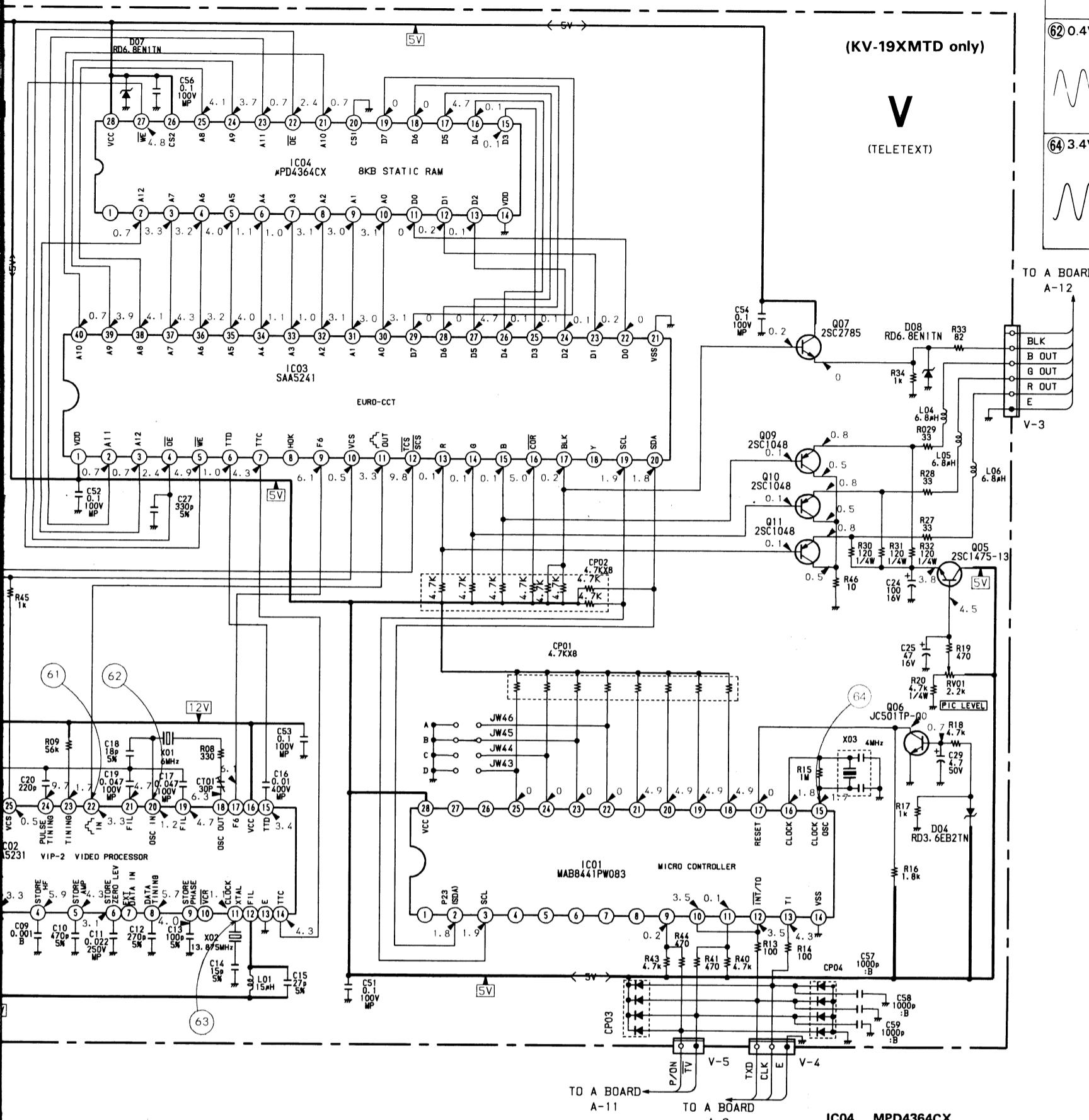
MC-Service

IC02 SAA5231

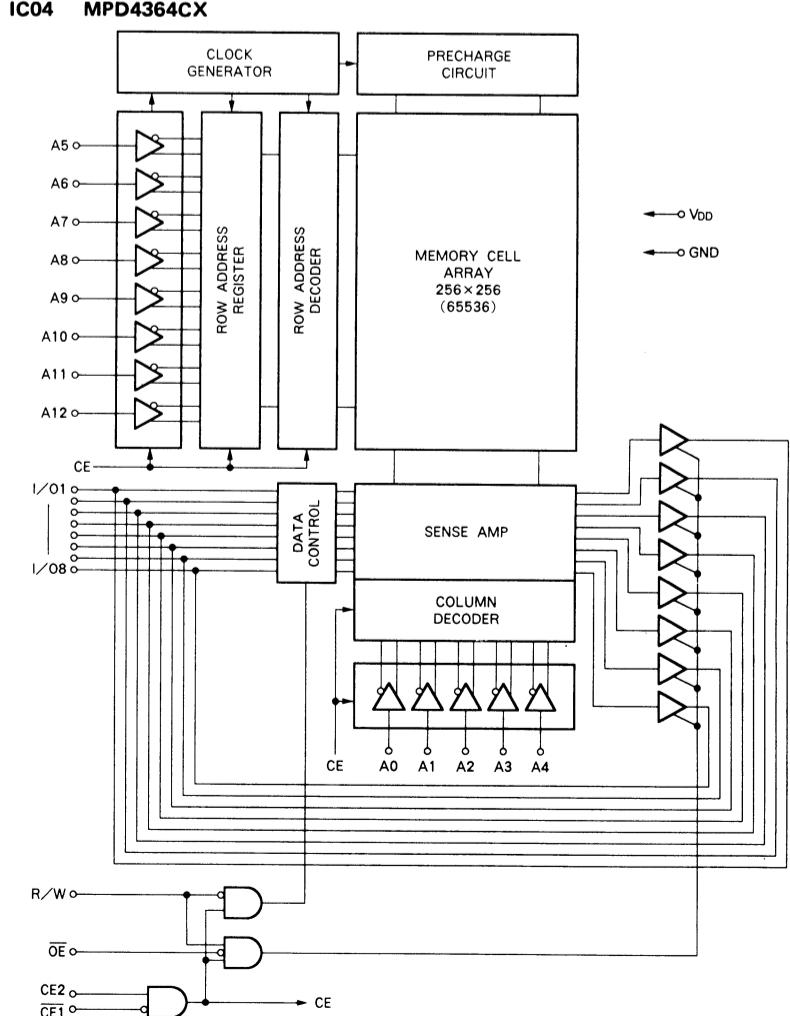
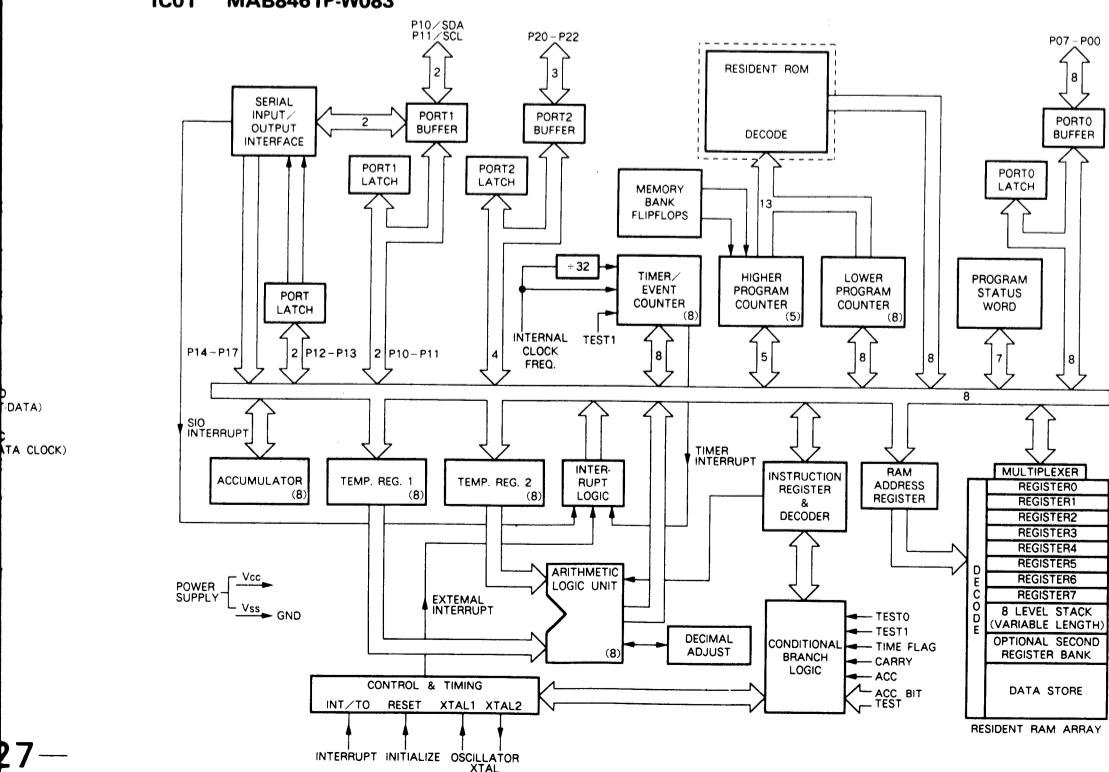


IC01 MAB8461P-W083





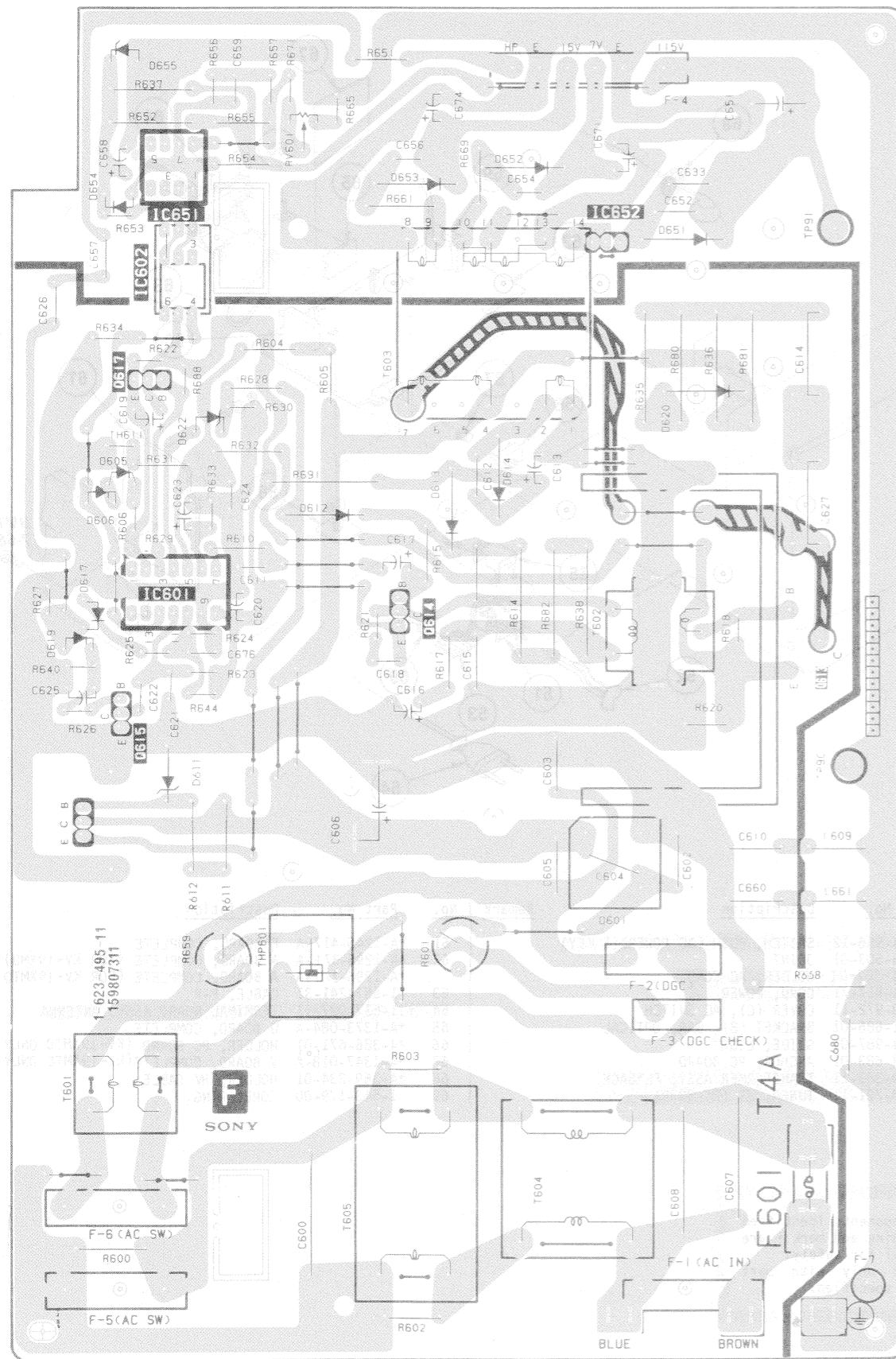
MC-Service

IC01 MAB8461P-W083

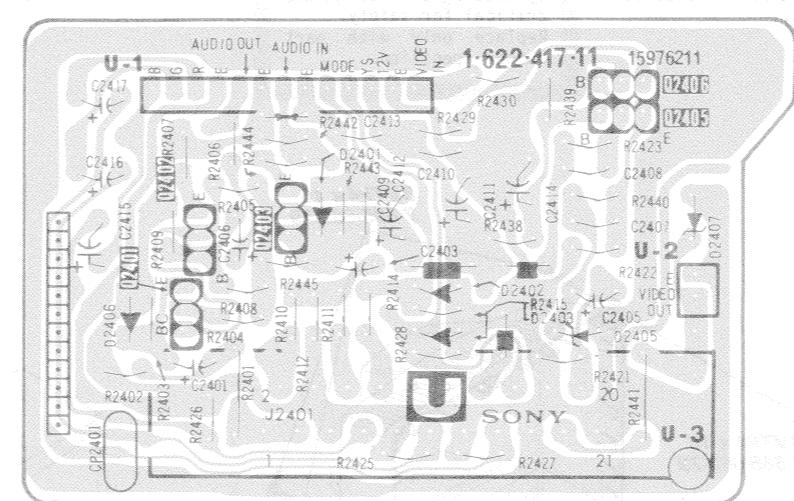
F [REG CONT, ISOLATION,
SHUNT REG, LINE RECT]**U** [AUDIO OUT, VIDEO IN AMP]**C** [R-G-B AMP]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

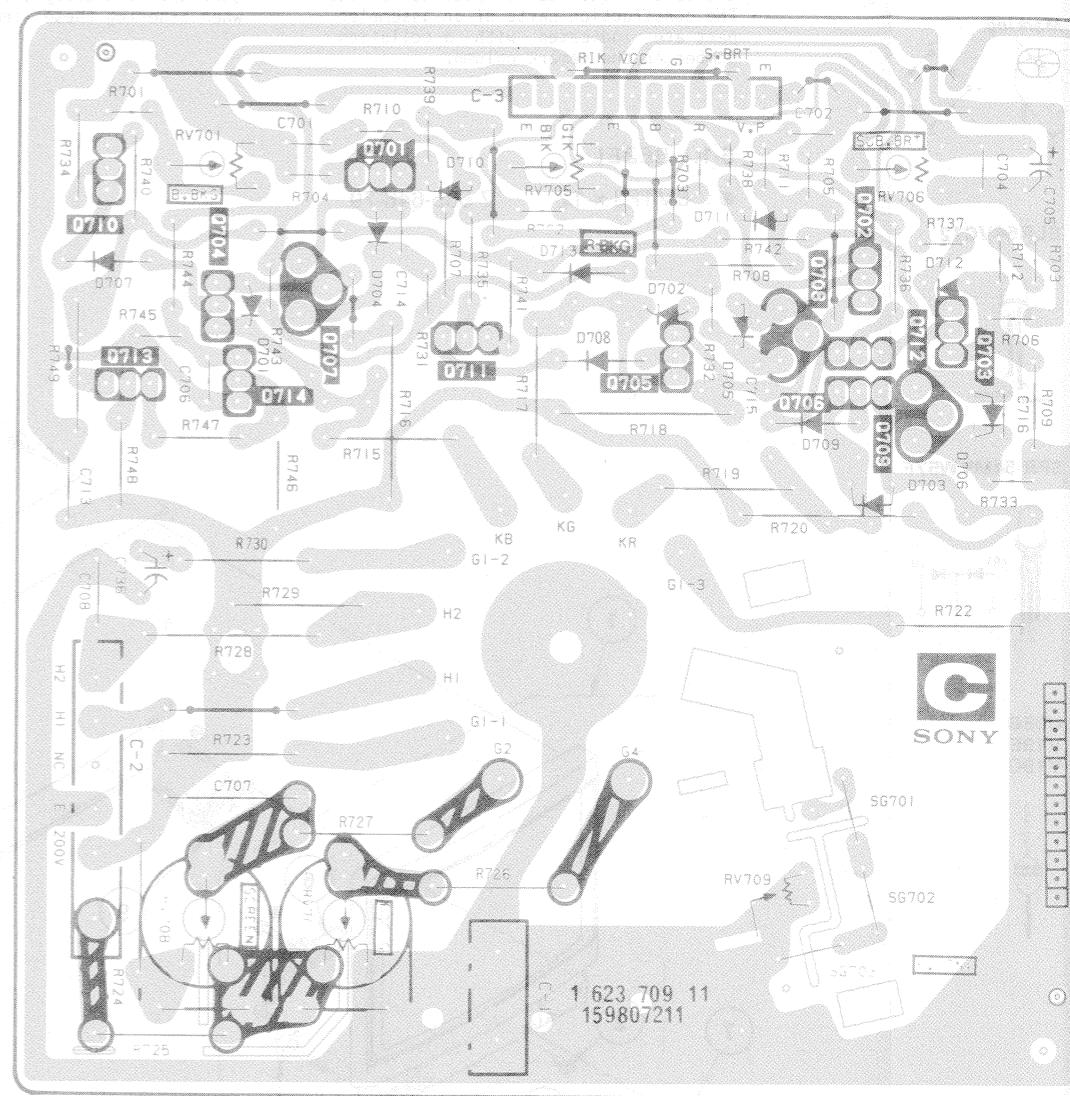
- F Board -



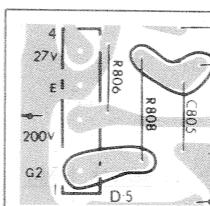
- U Board -



- C Board -

**NOTE:**

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



MC-Service

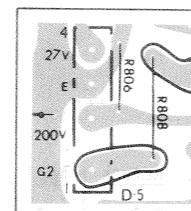
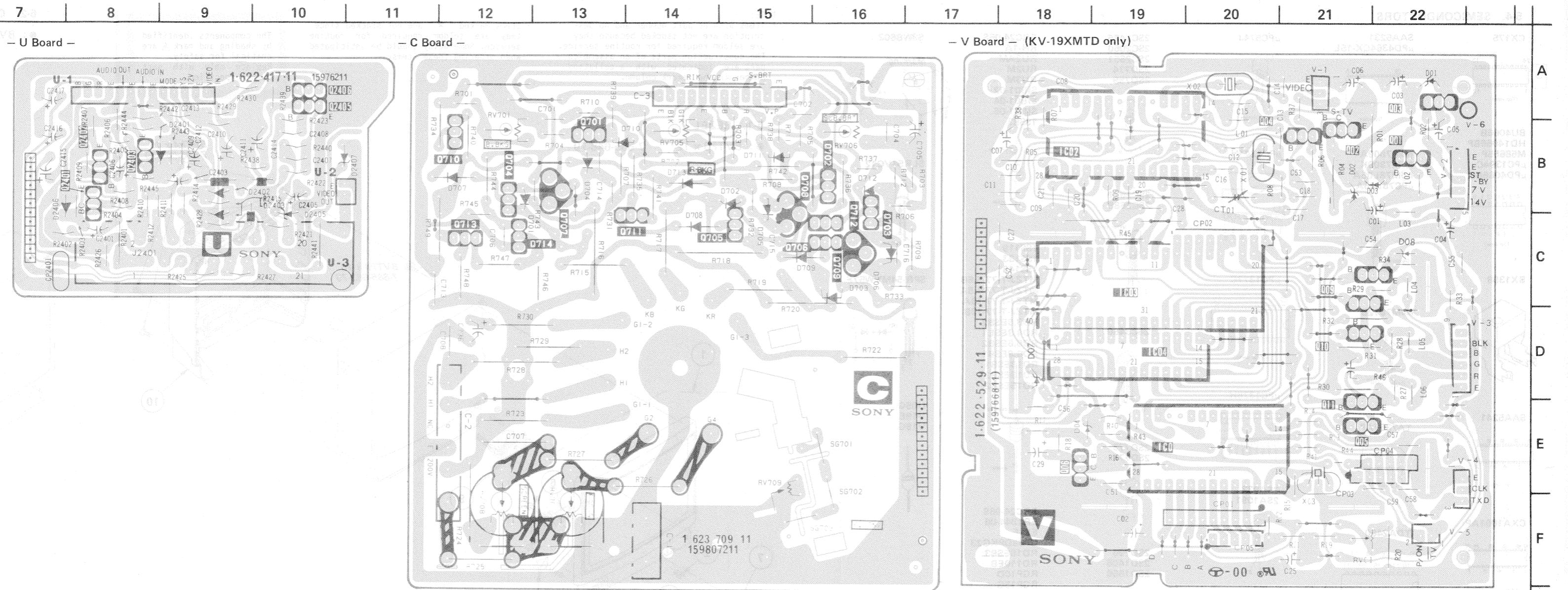
VIDEO IN AMP

C

[R·G·B AMP]

V

[TELETEXT]

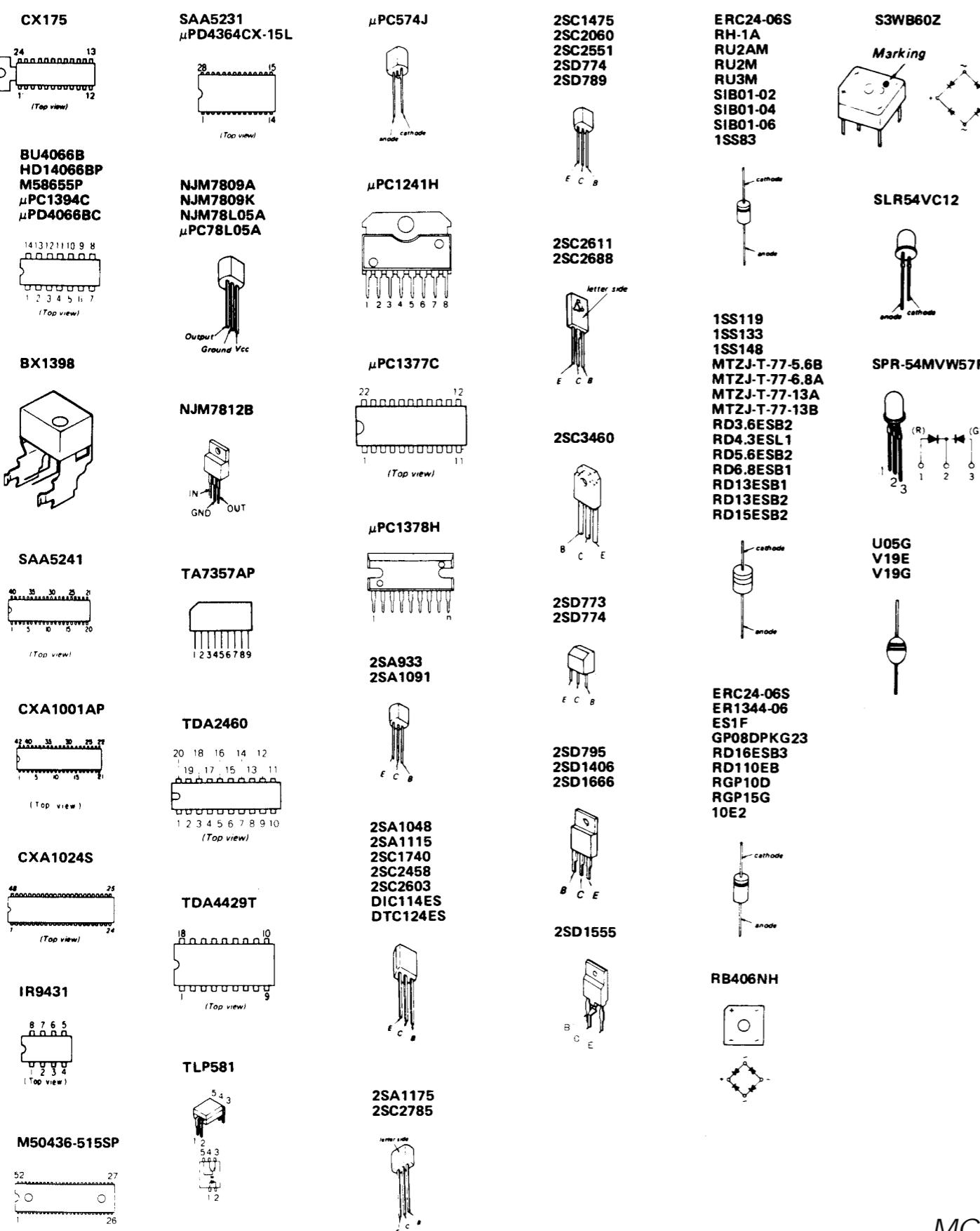
**NOTE:**

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

MC-Service

SECTION 6
EXPLODED VIEWS

5.4. SEMICONDUCTORS



NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

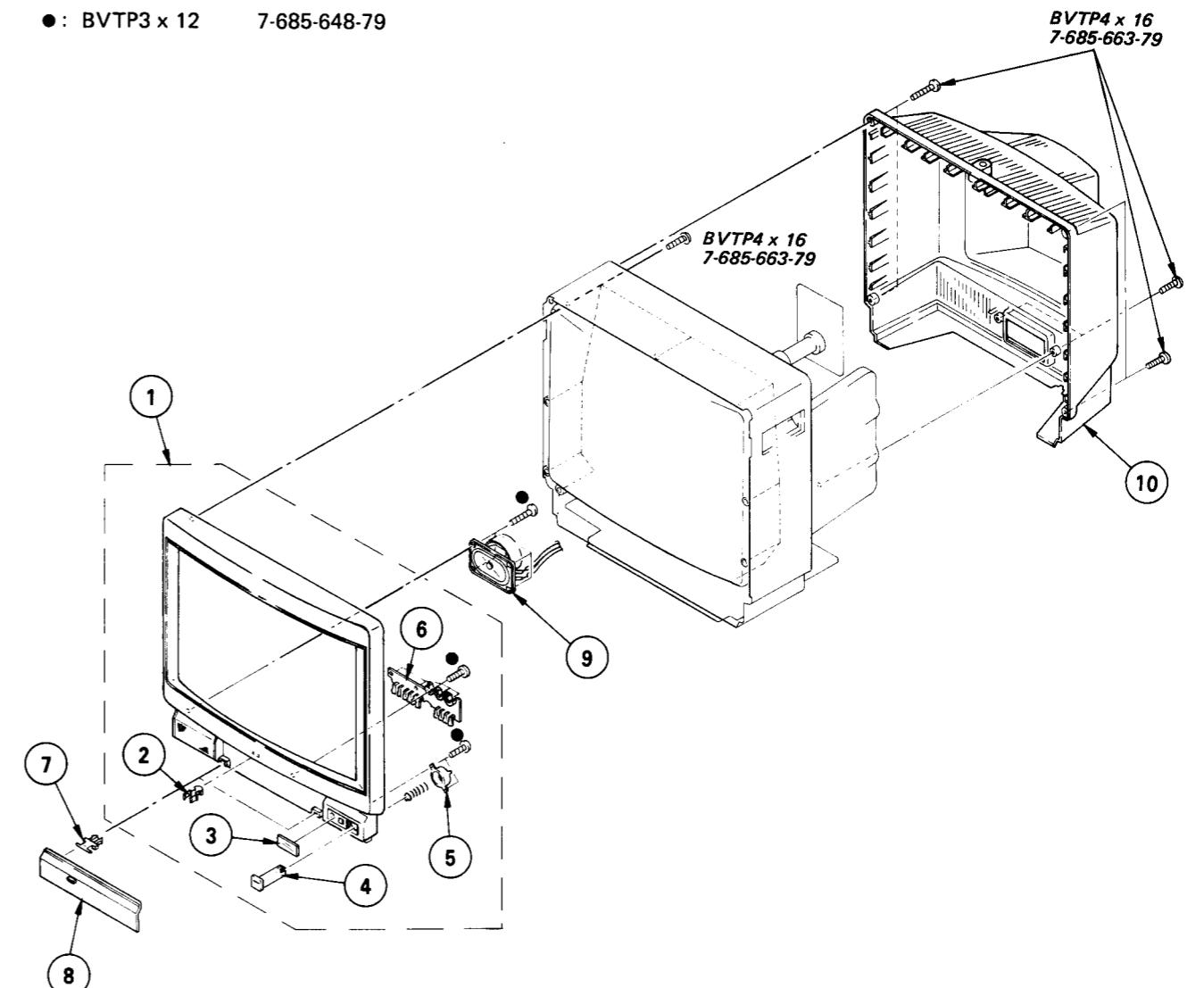
The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

6-2.

● : BV

6-1. BEZEL

● : BVTP3 x 12 7-685-648-79



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4386-631-1	BEZEL ASSY	2-6	7	3-662-365-00	SHAFT (S), DOOR	
2	4-374-714-01	CATCH, PUSH		8	X-4386-630-1	DOOR ASSY (FOR KV-19XMD)	
3	4-386-670-01	PLATE, TRANSPARENT		9	X-4386-629-1	DOOR ASSY (FOR KV-19XMTD)	
4	4-385-506-01	BUTTON, POWER		10	1-503-258-21	SPEAKER	
5	*4-385-505-01	HOLDER			4-386-677-01	COVER, REAR	
6	4-386-672-01	PUSH BUTTON					

SECTION 6

EXPLODED VIEWS

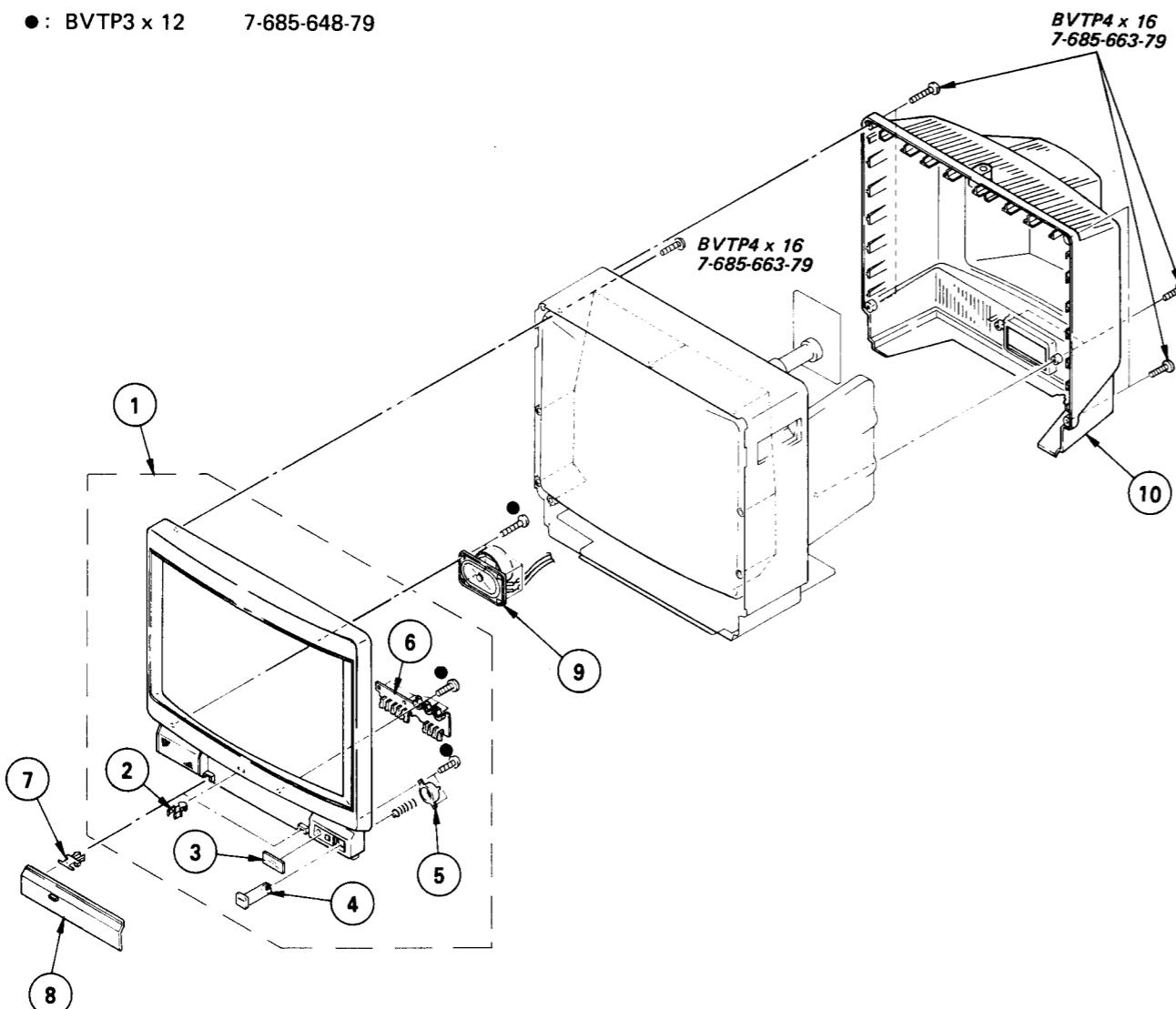
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

6-1. BEZEL

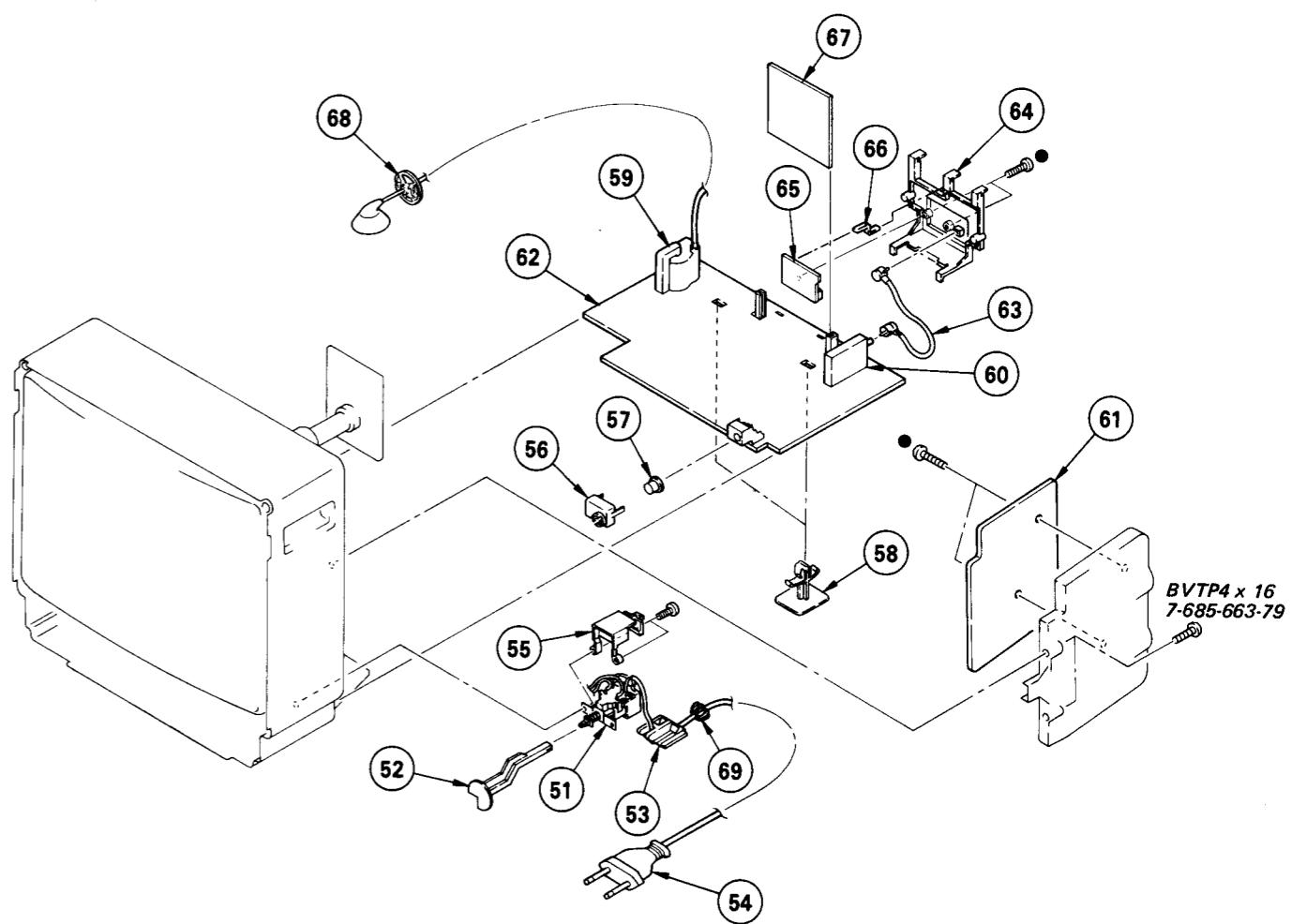
● : BVTP3 x 12 7-685-648-79



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4386-631-1	BEZEL ASSY		2-6	7	3-662-365-00	SHAFT (S), DOOR
2	4-374-714-01	CATCH, PUSH		8	X-4386-630-1	DOOR ASSY (FOR KV-19XMD)	
3	4-386-670-01	PLATE, TRANSPARENT		9	1-503-258-21	DOOR ASSY (FOR KV-19XMTD)	
4	4-385-506-01	BUTTON, POWER		10	4-386-677-01	SPEAKER	
5	*4-385-505-01	HOLDER				COVER, REAR	
6	4-386-672-01	PUSH BUTTON					

6-2. CHASSIS

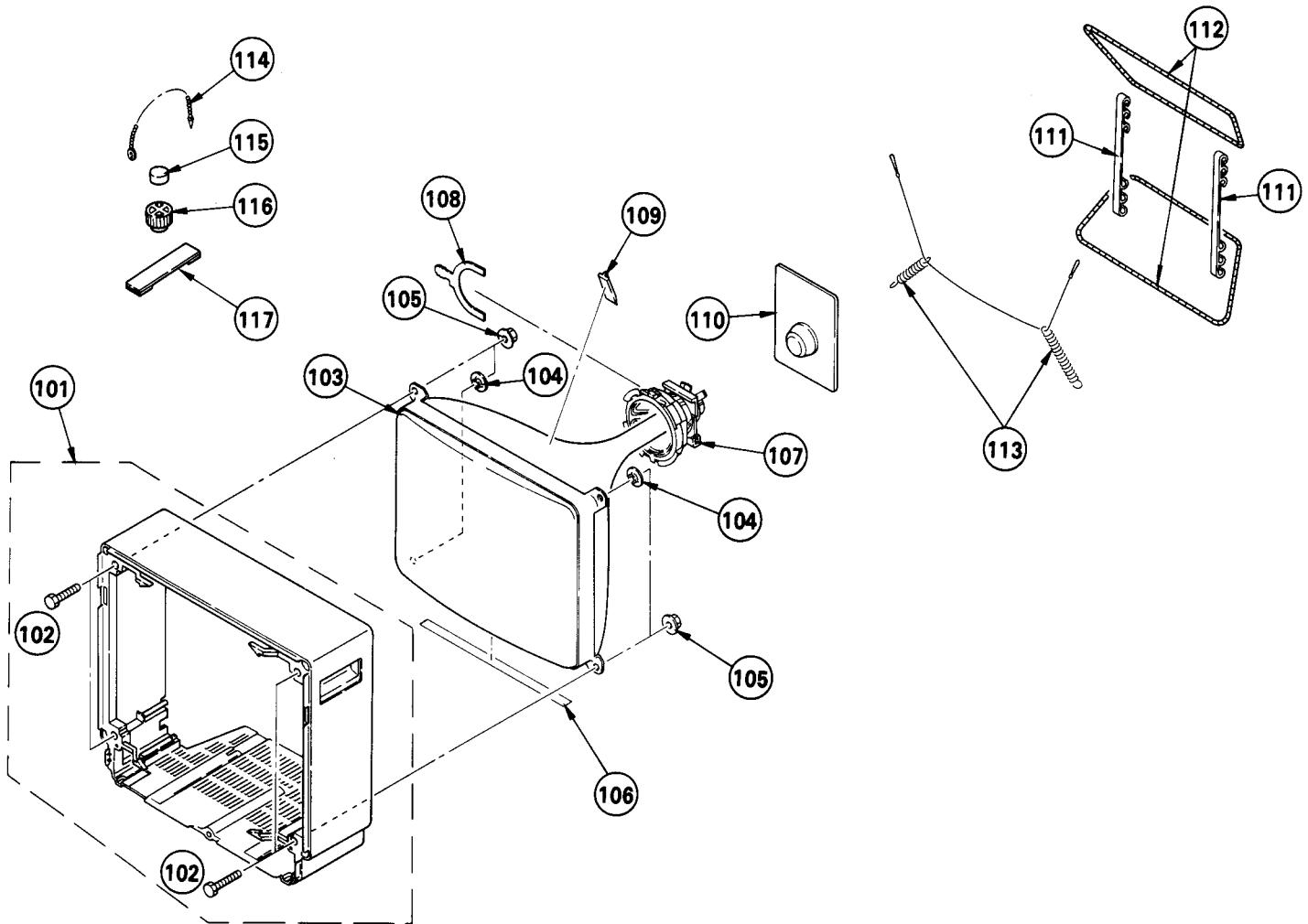
● : BVTP3 x 12 7-685-648-79



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	Δ .1-554-966-12	SWITCH, PUSH (AC POWER)(1 KEY)		61	*A-1245-417-A	F BOARD, COMPLETE	
52	4-385-503-01	JOINT		62	*A-1296-371-A	A BOARD, COMPLETE (FOR KV-19XMD)	
53	Δ *4-374-307-01	HOLDER, AC CORD		63	*A-1296-370-A	A BOARD, COMPLETE (FOR KV-19XMTD)	
54	Δ .1-534-817-71	CORD, POWER		64	Δ .1-537-097-11	CABLE, P-P	
55	*4-380-972-11	COVER (C), AC SWITCH		65	*A-1373-084-A	TERMINAL BOARD ASSY, ANTENNA	
56	*4-381-686-01	BRACKET (B), BAR, OPTICAL		66	*4-386-671-01	U BOARD, COMPLETE	
57	*4-374-987-01	GUIDE, LIGHT		67	*4-386-671-01	V BOARD, COMPLETE(KV-19XMTD ONLY)	
58	*4-382-683-01	ANCHOR, PC BOARD		68	*4-369-234-01	HOLDER, PC BOARD (KV-19XMTD ONLY)	
59	Δ .1-439-363-11	TRANSFORMER ASSY, FLYBACK		69	1-543-179-00	HOLDER, HV CABLE	
60	Δ .1-463-761-11	TUNER, ET (BT-883B)				CORE, RING	

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

6-3. PICTURE TUBE



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	X-4385-503-5	CABINET ASSY		102	102	*A-1330-805-A	C BOARD, COMPLETE
102	3-703-025-12	BOLT M5, HEXAGON-HEAD		110	*4-380-620-01	BAND, DEGAUSS COIL	
103	A.8-737-951-05	PICTURE TUBE (A46JNL10X)		111	A.1-426-331-11	COIL, DEMAGNETIZATION	
104	4-373-615-02	WASHER, CRT POSITIONING		112	*4-376-036-01	SPRING, TENSION	
105	4-306-034-00	FLANGE NUT, (B) 5MM		113	4-308-870-00	CLIP, LEAD WIRE	
106	4-372-556-11	CLOTH, BLOTTING		114	1-452-032-00	MAGNET, DISK; 10MM Ø	
107	A.1-451-279-21	DEFLECTION YOKE (SY165)		115	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
108	1-452-277-00	MAGNET, BMC		116	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
109	3-703-003-00	SPACER, DY		117			

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

SECTION 7

F

ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

• Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
• All resistors are in ohms
• F : nonflammable

CAPACITORS

• MF : μF , PF : $\mu\mu\text{F}$

COILS

• MMH : mH, UH : μH

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*A-1245-417-A	F BOARD, COMPLETE			D611	8-719-118-34	DIODE RD110EB	
	*****			D612	8-719-924-06	DIODE ERC24-06S	
*4-341-752-01	EYELET			D613	8-719-911-55	DIODE UO5G	
*4-363-146-00	HEAT SINK, V.OUT			D614	8-719-924-06	DIODE ERC24-06S	
4-363-414-00	SPACER, MICA			D617	8-719-911-19	DIODE ISS119	
*4-370-012-01	HOLDER, TRANSISTOR			D619	8-719-911-19	DIODE ISS119	
4-386-697-01	SPACER, MICA			D620	8-719-924-06	DIODE ERC24-06S	
CAPACITOR							
C600 A.1-136-360-51	FILM	0.22MF	20%	250V	D622	8-719-110-46	DIODE RD16ES-B3
C602 A.1-161-964-61	CERAMIC	0.0047MF	250V	D624	8-719-302-00	DIODE RU-2M	
C603 A.1-161-964-61	CERAMIC	0.0047MF	250V	D651	8-719-300-76	DIODE RH-1A	
C604 A.1-161-964-61	CERAMIC	0.0047MF	250V	D652	8-719-300-76	DIODE RH-1A	
C605 A.1-161-964-61	CERAMIC	0.0047MF	250V				
CONNECTOR							
C606 1-125-318-00	ELECT(BLOCK)	220MF	20%	400V	F2	*1-508-765-00	3P PLUG (M)
C607 A.1-136-360-51	FILM	0.22MF	20%	250V	F3	*1-508-786-00	2P PLUG (M)
C608 A.1-136-360-51	FILM	0.22MF	20%	250V	F4	*1-508-768-00	6P PLUG
C609 A.1-162-578-51	CERAMIC	0.0047MF	20%	400V	F5	*1-506-349-21	3P PLUG (L)
C610 A.1-162-578-51	CERAMIC	0.0047MF	20%	400V	F6	*1-506-349-21	3P PLUG (L)
C611 1-102-973-00	CERAMIC	100PF	5%	50V			
C612 1-162-115-00	CERAMIC	330PF	10%	2KV			
C613 1-124-807-91	ELECT	4.7MF	20%	200V			
C614 1-136-066-00	FILM	0.003MF	3%	2KV	F601 A.1-532-350-11	FUSE, TIME-LAG 4A/250V	
C615 1-129-765-00	FILM	0.047MF	10%	200V	*1-533-189-11	HOLDER, FUSE; F601	
FUSE							
C617 1-124-902-00	ELECT	0.47MF	20%	50V			
C618 1-162-318-11	CERAMIC	0.001MF	10%	500V	IC601	8-759-100-75	IC UPC1394C
C619 1-124-245-00	ELECT	4.7MF	20%	16V	IC602	8-719-939-00	PC111S
C620 1-124-446-11	ELECT	47MF	20%	10V	IC651	8-759-927-49	IC IR9431
C621 1-130-475-00	FILM	0.0022MF	5%	50V			
IC							
C622 1-104-067-00	POLYSTYRENE	390PF	5%	50V			
C623 1-123-356-00	ELECT	10MF	20%	16V	Q611	8-729-168-82	TRANSISTOR 2SC2688
C624 1-162-318-11	CERAMIC	0.001MF	10%	500V	Q613	8-729-802-14	TRANSISTOR 2SC3460
C625 1-124-463-00	ELECT	0.1MF	20%	50V	Q614	8-729-168-82	TRANSISTOR 2SC2688
C626 1-161-973-00	CERAMIC	220PF	10%	400V	Q615	8-729-178-54	TRANSISTOR 2SC2785
C627 1-136-319-11	FILM	0.0033MF	3%	2KV	Q617	8-729-178-54	TRANSISTOR 2SC2785
C633 1-162-115-00	CERAMIC	330PF	10%	2KV			
C651 1-125-319-00	ELECT(BLOCK)	330MF	20%	160V			
C652 1-162-115-00	CERAMIC	330PF	10%	2KV			
C654 1-102-030-00	CERAMIC	330PF	10%	500V	R600 A.1-214-947-21	METAL CEMENTED	2.7M 1% 1/2W
C656 1-102-030-00	CERAMIC	330PF	10%	500V	R601 A.1-205-763-11	METAL CEMENTED	3.3 10% 10W F
C657 1-161-973-00	CERAMIC	220PF	10%	400V	R602 A.1-246-521-25	CARBON	100K 5% 1/4W
C658 1-124-499-11	ELECT	1MF	20%	50V	R603 A.1-246-521-25	CARBON	100K 5% 1/4W
C659 1-108-837-00	MYLAR	0.01MF	10%	50V	R604 1-249-746-11	CARBON	1.2M 5% 1/4W
C660 A.1-162-578-51	CERAMIC	0.0047MF	20%	400V	R605 1-246-545-00	CARBON	1M 5% 1/4W
C661 A.1-162-578-51	CERAMIC	0.0047MF	20%	400V	R606 1-249-423-11	CARBON	3.3K 5% 1/4W
C671 1-123-974-00	ELECT	2200MF	20%	16V	R610 1-247-700-11	CARBON	100 5% 1/4W
C674 1-126-105-11	ELECT	1000MF	20%	35V	R611 1-216-444-11	METAL OXIDE	82K 5% 1W F
C676 1-102-973-00	CERAMIC	100PF	5%	50V	R612 1-216-444-11	METAL OXIDE	82K 5% 1W F
C680 A.1-108-637-11	MYLAR	0.082MF	10%	100V	R614 1-216-484-00	METAL OXIDE	3.9K 5% 3W F
					R615 1-246-529-00	CARBON	220K 5% 1/4W
D601 8-719-503-06	DIODE S3WB60Z				R618 1-249-396-11	CARBON	18 5% 1/4W
D605 8-719-911-19	DIODE ISS119				R620 1-217-192-21	WIREWOUND	0.22 10% 2W F
D606 8-719-911-19	DIODE ISS119				R621 1-249-417-11	CARBON	1K 5% 1/4W F
DIODE							

F

A

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	
R622	1-249-434-11	CARBON	27K	5%	1/4W		*A-1296-371-A	A BOARD, COMPLETE (FOR KV-19XMD)	*****			
R623	1-215-457-00	METAL	33K	1%	1/6W				*****			
R624	1-249-429-11	CARBON	10K	5%	1/4W		*A-1296-370-A	A BOARD, COMPLETE (FOR KV-19XMTD)	*****			
R625	1-249-435-11	CARBON	33K	5%	1/4W				*****			
R626	1-249-411-11	CARBON	330	5%	1/4W				*****			
R627	1-249-438-11	CARBON	56K	5%	1/4W		3-531-576-31	RIVET (DIA. 3), NYLON				
R628	1-214-777-00	METAL	100K	1%	1/4W		*3-662-075-00	COVER, CONTROL				
R629	1-249-432-11	CARBON	18K	5%	1/4W		*4-341-751-01	PAWL				
R630	1-215-459-00	METAL	39K	1%	1/6W		*4-341-752-01	EYELET				
R631	1-247-720-11	CARBON	3.9K	5%	1/4W		*4-370-519-01	CASE (UPPER LID), SHIELD,A PCB				
R632	1-247-753-11	CARBON	1.2K	5%	1/2W F		*4-370-520-01	CASE (MAIN), SHIELD,A PC BOARD				
R633	1-249-441-11	CARBON	100K	5%	1/4W		*4-370-521-01	CASE (BOTTOM LID),SHIELD,A PCB				
R634	1-249-417-11	CARBON	1K	5%	1/4W		*4-380-083-01	HOLDER (E), LED				
R635	1-205-927-11	WIREWOUND	2.2K	10%	10W		*4-386-674-01	HOLDER, LED				
R636	1-205-928-11	WIREWOUND	180	10%	10W							
								<u>CONNECTOR</u>				
R638	1-216-484-00	METAL OXIDE	3.9K	5%	3W F		A1	*1-564-259-00	PLUG, CONNECTOR (2.5MM) 13P			
R640	1-249-438-11	CARBON	56K	5%	1/4W		A3	*1-508-768-00	6P PLUG			
R644	1-247-885-00	CARBON	180K	5%	1/4W		A4	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
R651	1-246-523-00	CARBON	120K	5%	1/4W		A5	*1-508-768-00	6P PLUG			
R652	1-215-899-11	METAL OXIDE	15K	5%	2W F		A6	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
R653	1-249-417-11	CARBON	1K	5%	1/4W		A7	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
R654	1-246-523-00	CARBON	120K	5%	1/4W		A8	*1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P			
R655	1-249-469-11	CARBON	100K	5%	1/4W		A9	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)			
R656	1-247-895-00	CARBON	470K	5%	1/4W		A10	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
R657	1-249-440-11	CARBON	82K	5%	1/4W		A11	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			
R658	A.1-247-289-11	CARBON	8.2M	5%	1W							
R659	A.1-205-758-11	CEMENTED	100	10%	10W F		A12	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P			
R661	1-249-443-11	CARBON	0.47	5%	1/4W F		A13	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)			
R665	1-249-420-11	CARBON	1.8K	5%	1/4W		A15	*1-508-767-00	5P PLUG			
R669	1-249-443-11	CARBON	0.47	5%	1/4W F		DY1	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P			
R671	1-249-410-11	CARBON	270	5%	1/4W				<u>CAPACITOR</u>			
R682	1-216-484-00	METAL OXIDE	3.9K	5%	3W F		C001	1-102-112-00	CERAMIC	330PF	10%	50V
R688	1-249-427-11	CARBON	6.8K	5%	1/4W		C002	1-136-165-00	FILM	0.1MF	5%	50V
R691	1-216-489-11	METAL OXIDE	27K	5%	3W F		C003	1-123-875-11	ELECT	10MF	20%	50V
							C004	1-126-101-11	ELECT	100MF	20%	16V
							C005	1-124-255-00	ELECT	1MF	20%	50V
									<u>VARIABLE RESISTOR</u>			
RV601	1-230-624-41	RES, ADJ, CARBON	220				C006	1-124-908-11	ELECT	22MF	20%	50V
							C007	1-124-499-11	ELECT	1MF	20%	50V
							C008	1-124-255-00	ELECT	1MF	20%	50V
							C009	1-124-255-00	ELECT	1MF	20%	50V
							C010	1-101-884-00	CERAMIC	56PF	5%	50V
									<u>TRANSFORMER</u>			
T602	1-437-079-00	TRANSFORMER, HORIZONTAL DRIVE					C011	1-101-004-00	CERAMIC	0.01MF		
T603	A.1-448-895-11	SRT					C014	1-124-910-11	ELECT	47MF	20%	50V
T604	A.1-421-776-11	LFT					C015	1-102-973-00	CERAMIC	100PF	5%	50V
T605	A.1-421-758-11	TRANSFORMER, LINE FILTER (LFT)					C016	1-124-908-11	ELECT	22MF	20%	50V
							C020	1-123-875-11	ELECT	10MF	20%	50V
									<u>THERMISTOR</u>			
TH611	A.1-800-954-11	THERMISTOR S-3K					C026	1-124-122-11	ELECT	100MF	20%	50V
THP601	A.1-806-387-11	THERMISTOR (POSITIVE)					C027	1-136-165-00	FILM	0.1MF	5%	50V
							C031	1-102-978-00	CERAMIC	220PF	5%	50V
							C032	1-130-489-00	MYLAR	0.033MF	10%	50V
							C033	1-106-355-12	MYLAR	0.0033MF	5%	50V
							C041	1-101-004-00	CERAMIC	0.01MF		

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

A

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
C048	1-101-004-00	CERAMIC	0.01MF	50V	C340	1-124-477-11	ELECT	47MF	20%	16V	
C049	1-124-444-00	ELECT	220MF	20%	10V	C341	1-124-499-11	ELECT	1MF	20%	50V
C051	1-162-304-31	CERAMIC	0.0047MF	20%	16V	C346	1-124-499-11	ELECT	1MF	20%	50V
C052	1-102-745-00	CERAMIC	7PF	0.5PF	50V	C347	1-162-287-31	CERAMIC	270PF	10%	50V
C057	1-102-754-00	CERAMIC	39PF	5%	50V	C370	1-101-005-00	CERAMIC	0.022MF		50V
C081	1-124-444-00	ELECT	220MF	20%	10V	C387	1-102-074-00	CERAMIC	0.001MF	10%	50V
C082	1-124-477-11	ELECT	47MF	20%	16V	C400	1-161-494-00	CERAMIC	0.022MF		25V
C210	1-124-477-11	ELECT	47MF	20%	16V	C402	1-136-165-00	FILM	0.1MF	5%	50V
C211	1-161-494-00	CERAMIC	0.022MF	30%	25V	C403	1-136-165-00	FILM	0.1MF	5%	50V
C212	1-102-106-00	CERAMIC	100PF	10%	50V	C405	1-102-806-00	CERAMIC	27PF	5%	50V
C226	1-101-004-00	CERAMIC	0.01MF		50V	C406	1-102-526-00	CERAMIC	75PF	5%	50V
C228	1-124-477-11	ELECT	47MF	20%	16V	C407	1-136-173-00	FILM	0.47MF	5%	50V
C229	1-124-257-00	ELECT	2.2MF	20%	50V	C408	1-123-875-11	ELECT	10MF	20%	50V
C230	1-123-875-11	ELECT	10MF	20%	50V	C410	1-123-875-11	ELECT	10MF	20%	50V
C233	1-123-875-11	ELECT	10MF	20%	50V	C411	1-136-161-00	FILM	0.047MF	5%	50V
C234	1-102-119-00	CERAMIC	0.0015MF	10%	50V	C412	1-102-119-00	CERAMIC	0.0015MF	10%	50V
C235	1-124-257-00	ELECT	2.2MF	20%	50V	C413	1-124-499-11	ELECT	1MF	20%	50V
C236	1-106-220-00	MYLAR	0.1MF	10%	100V	C414	1-136-173-00	FILM	0.47MF	5%	50V
C238	1-126-105-11	ELECT	1000MF	20%	35V	C415	1-101-005-00	CERAMIC	0.022MF		50V
C239	1-124-477-11	ELECT	47MF	20%	16V	C416	1-123-875-11	ELECT	10MF	20%	50V
C240	1-126-103-11	ELECT	470MF	20%	16V	C417	1-123-875-11	ELECT	10MF	20%	50V
C251	1-124-463-00	ELECT	0.1MF	20%	50V	C419	1-124-499-11	ELECT	1MF	20%	50V
C252	1-124-463-00	ELECT	0.1MF	20%	50V	C420	1-102-526-00	CERAMIC	75PF	5%	50V
C272	1-123-875-11	ELECT	10MF	20%	50V	C421	1-102-806-00	CERAMIC	27PF	5%	50V
C273	1-136-165-00	FILM	0.1MF	5%	50V	C423	1-136-165-00	FILM	0.1MF	5%	50V
C274	1-123-875-11	ELECT	10MF	20%	50V	C424	1-123-875-11	ELECT	10MF	20%	50V
C283	1-124-477-11	ELECT	47MF	20%	16V	C425	1-102-888-00	CERAMIC	150PF	5%	50V
C291	1-102-963-00	CERAMIC	33PF	5%	50V	C430	1-102-973-00	CERAMIC	100PF	5%	50V
C292	1-124-477-11	ELECT	47MF	20%	16V	C434	1-102-117-00	CERAMIC	820PF	10%	50V
C293	1-136-165-00	FILM	0.1MF	5%	50V	C466	1-102-074-00	CERAMIC	0.001MF	10%	50V
C294	1-136-163-00	FILM	0.068MF	5%	50V	C472	1-130-483-00	MYLAR	0.01MF	5%	50V
C301	1-126-101-11	ELECT	100MF	20%	16V	C490	1-124-477-11	ELECT	47MF	20%	16V
C303	1-124-927-11	ELECT	4.7MF	20%	50V	C501	1-108-845-00	MYLAR	0.047MF	10%	50V
C304	1-123-875-11	ELECT	10MF	20%	50V	C502	1-124-499-11	ELECT	1MF	20%	50V
C305	1-110-201-00	MYLAR	0.0033MF	5%	50V	C503	1-106-347-00	MYLAR	0.0015MF	10%	50V
C308	1-124-925-11	ELECT	2.2MF	20%	50V	C504	1-136-173-00	FILM	0.47MF	5%	50V
C310	1-123-875-11	ELECT	10MF	20%	50V	C505	1-130-490-11	MYLAR	0.039MF	10%	50V
C311	1-130-487-00	MYLAR	0.022MF	5%	50V	C506	1-124-499-11	ELECT	1MF	20%	50V
C312	1-130-487-00	MYLAR	0.022MF	5%	50V	C507	1-108-837-00	MYLAR	0.01MF	10%	50V
C316	1-136-169-00	FILM	0.22MF	5%	50V	C508	1-124-499-11	ELECT	1MF	20%	50V
C317	1-102-074-00	CERAMIC	0.001MF	10%	50V	C509	1-126-101-11	ELECT	100MF	20%	16V
C320	1-126-101-11	ELECT	100MF	20%	16V	C510	1-124-902-00	ELECT	0.47MF	20%	50V
C322	1-101-005-00	CERAMIC	0.022MF		50V	C512	1-131-363-00	TANTALUM	4.7MF	10%	16V
C323	1-124-464-11	ELECT	0.22MF	20%	50V	C513	1-129-793-00	FILM	0.047MF	5%	100V
C324	1-124-464-11	ELECT	0.22MF	20%	50V	C514	1-124-555-00	ELECT	1000MF	20%	16V
C326	1-124-464-11	ELECT	0.22MF	20%	50V	C515	1-124-120-11	ELECT	220MF	20%	16V
C328	1-102-506-00	CERAMIC	7PF	0.5PF	50V	C516	1-130-487-00	MYLAR	0.022MF	10%	50V
C331	1-124-499-11	ELECT	1MF	20%	50V	C517	1-101-888-00	CERAMIC	68PF	5%	50V
C333	1-102-959-00	CERAMIC	22PF	5%	50V	C518	1-106-367-00	MYLAR	0.01MF	10%	100V
C334	1-124-925-11	ELECT	2.2MF	20%	50V	C519	1-126-101-11	ELECT	100MF	20%	16V
C336	1-124-925-11	ELECT	2.2MF	20%	50V	C520	1-124-499-11	ELECT	1MF	20%	50V
C337	1-102-980-00	CERAMIC	270PF	5%	50V	C521	1-124-499-11	ELECT	1MF	20%	50V
C338	1-101-004-00	CERAMIC	0.01MF		50V	C522	1-136-298-00	FILM	0.0033MF	5%	100V

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark				
C523	1-106-351-00	MYLAR	0.0022MF	5%	100V	C1416	1-124-927-11	ELECT	4.7MF	20%	50V
C524	1-130-487-00	MYLAR	0.022MF	10%	50V	C1430	1-124-499-11	ELECT	1MF	20%	50V
C525	1-126-101-11	ELECT	100MF	20%	16V	C1431	1-124-120-11	ELECT	220MF	20%	16V
C526	1-106-347-00	MYLAR	0.0015MF	10%	50V	C1432	1-101-005-00	CERAMIC	0.022MF	50V	
C527	1-102-038-00	CERAMIC	0.001MF	99%	500V	C1441	1-110-199-00	MYLAR	0.0022MF	5%	50V
C531	1-123-875-11	ELECT	10MF	20%	50V	C1442	1-129-701-00	FILM	0.01MF	5%	100V
C532	1-102-074-00	CERAMIC	0.001MF	10%	50V	C1451	1-126-101-11	ELECT	100MF	20%	16V
C533	1-102-114-00	CERAMIC	470PF	10%	50V	C1459	1-124-499-11	ELECT	1MF	20%	50V
C535	1-102-074-00	CERAMIC	0.001MF	10%	50V	C1460	1-124-499-11	ELECT	1MF	20%	50V
C551	1-126-105-11	ELECT	1000MF	20%	35V	C1461	1-123-875-11	ELECT	10MF	20%	50V
C552	1-124-122-11	ELECT	100MF	20%	50V	C1462	1-124-464-11	ELECT	0.22MF	20%	50V
C553	1-106-363-00	MYLAR	0.0068MF	10%	100V	C1463	1-124-464-11	ELECT	0.22MF	20%	50V
C554	1-102-244-00	CERAMIC	220PF	10%	500V	C1464	1-124-464-11	ELECT	0.22MF	20%	50V
C555	1-106-375-12	MYLAR	0.022MF	10%	100V	C1465	1-136-165-00	FILM	0.1MF	5%	50V
C558	1-123-585-00	ELECT	470MF	10%	25V	C1466	1-106-361-00	MYLAR	0.0056MF	10%	100V
C801	1-102-114-00	CERAMIC	470PF	10%	50V	C1467	1-124-908-11	ELECT	22MF	20%	50V
C802	1-124-499-11	ELECT	1MF	20%	50V	C1468	1-101-004-00	CERAMIC	0.01MF	50V	
C803	1-124-902-00	ELECT	0.47MF	20%	50V	C1469	1-136-165-00	FILM	0.1MF	5%	50V
C804	1-102-114-00	CERAMIC	470PF	10%	50V	C1470	1-124-255-00	ELECT	1MF	20%	50V
C805	1-102-030-00	CERAMIC	330PF	10%	500V	C1471	1-124-255-00	ELECT	1MF	20%	50V
C806	1-106-343-00	MYLAR	0.001MF	10%	200V	C1472	1-124-255-00	ELECT	1MF	20%	50V
C807	1-106-385-00	MYLAR	0.056MF	10%	200V	C1473	1-136-161-00	FILM	0.047MF	5%	50V
C808	1-123-024-00	ELECT	33MF	20%	160V	C1474	1-136-161-00	FILM	0.047MF	5%	50V
C809	1-130-493-00	MYLAR	0.068MF	10%	50V	C1475	1-136-161-00	FILM	0.047MF	5%	50V
C811 A.1-136-545-11	FILM	0.0078MF	10%	2KV	C1476	1-136-153-00	FILM	0.01MF	5%	50V	
C812 A.1-162-116-51	CERAMIC	680PF	10%	2KV	C1477	1-136-153-00	FILM	0.01MF	5%	50V	
C813	1-124-477-11	ELECT	47MF	20%	16V	C1478	1-136-153-00	FILM	0.01MF	5%	50V
C815	1-124-004-51	ELECT	3.3MF	20%	50V	C1479	1-136-161-00	FILM	0.047MF	5%	50V
C816	1-102-963-00	CERAMIC	33PF	5%	50V	C1480	1-110-203-00	MYLAR	0.0047MF	5%	50V
C817	1-124-925-11	ELECT	2.2MF	20%	50V	C1481	1-110-203-00	MYLAR	0.0047MF	5%	50V
C819	1-102-212-00	CERAMIC	820PF	10%	500V			<u>TRIMMER</u>			
C820	1-106-363-00	MYLAR	0.0068MF	10%	100V						
C822	1-124-910-11	ELECT	47MF	20%	35V	CV443	1-141-181-11	CAP, TRIMMER			
C823	1-106-375-12	MYLAR	0.022MF	10%	100V			<u>DIODE</u>			
C824	1-162-133-00	CERAMIC	390PF	10%	2KV						
C830	1-136-455-00	FILM	0.43MF	5%	200V	D001	8-719-911-19	DIODE 1SS119			
C840	1-124-477-11	ELECT	47MF	20%	16V	D003	8-719-911-19	DIODE 1SS119			
C850	1-162-114-00	CERAMIC	0.0047MF		2KV	D004	8-719-911-19	DIODE 1SS119			
C851	1-101-810-00	CERAMIC	100PF	5%	500V	D006	8-719-911-19	DIODE 1SS119			
C852	1-123-948-00	ELECT	22MF	20%	250V	D007	8-719-911-19	DIODE 1SS119			
C854	1-124-927-11	ELECT	4.7MF	20%	100V	D008	8-719-911-19	DIODE 1SS119			
C855	1-124-120-11	ELECT	220MF	20%	25V	D010	8-719-911-19	DIODE 1SS119			
C856	1-106-383-00	MYLAR	0.047MF	10%	200V	D011	8-719-123-08	DIODE RD30ES-L4			
C857	1-106-383-00	MYLAR	0.047MF	10%	100V	D014	8-719-911-19	DIODE 1SS119			
C858	1-162-318-11	CERAMIC	0.001MF	10%	500V	D017	8-719-911-19	DIODE 1SS119			
C859	1-106-367-00	MYLAR	0.01MF	10%	200V	D027	8-719-911-19	DIODE 1SS119			
C860	1-102-228-00	CERAMIC	470PF	10%	500V	D029	8-719-920-66	DIODE SLR-54VC12			
C862	1-124-477-11	ELECT	47MF	20%	25V	D030	8-719-946-36	DIODE SPR-54MVW57			
C863	1-102-820-00	CERAMIC	330PF	5%	50V	D031	8-719-911-19	DIODE 1SS119			
C873	1-108-683-11	MYLAR	0.0018MF	10%	200V	D032	8-719-911-19	DIODE 1SS119			
C1401	1-124-908-11	ELECT	22MF	20%	50V	D033	8-719-911-19	DIODE 1SS119			
C1403	1-101-003-00	CERAMIC	0.0047MF		50V	D066	8-719-911-19	DIODE 1SS119			
C1415	1-126-101-11	ELECT	100MF	20%	16V	D067	8-719-109-93	DIODE RD6.2ES-B2			

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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
D068	8-719-109-93	DIODE RD6.2ES-B2		IC801	8-759-700-06	IC NJM7812B	
D079	8-719-911-19	DIODE ISS119		IC802	8-759-701-00	IC NJM7809K	
D081	8-719-109-90	DIODE RD5.6ES-B3		IC1401	8-752-030-31	IC CXA1024S	
D084	8-719-911-19	DIODE ISS119		IC1402	8-759-140-66	IC UPD4066BC	
D211	8-719-119-87	DIODE RD3.3ES-L1					<u>IF BLOCK</u>
D220	8-719-911-19	DIODE ISS119		IF201	1-464-553-11	IF BLOCK (IFB-389)	
D242	8-719-911-19	DIODE ISS119					<u>JACK</u>
D305	8-719-911-19	DIODE ISS119		JK201	1-507-678-00	JACK	
D307	8-719-911-19	DIODE ISS119					<u>COIL</u>
D341	8-719-911-19	DIODE ISS119		L001	1-410-470-11	MICRO INDUCTOR 10UH	
D401	8-719-911-19	DIODE ISS119		L020	1-410-093-11	MICRO INDUCTOR 33MMH	
D430	8-719-911-19	DIODE ISS119		L030	1-410-470-11	MICRO INDUCTOR 10UH	
D501	8-719-911-19	DIODE ISS119		L090	1-410-470-11	MICRO INDUCTOR 10UH	
D502	8-719-911-19	DIODE ISS119		L201	1-410-470-11	MICRO INDUCTOR 10UH	
D503	8-719-911-19	DIODE ISS119		L202	1-408-408-00	MICRO INDUCTOR 8.2UH	
D551	8-719-920-04	DIODE ERB12-04RK		L203	1-410-474-21	MICRO INDUCTOR 22UH	
D801	8-719-200-02	DIODE 10E2		L333	1-408-419-00	MICRO INDUCTOR 68UH	
D802	8-719-200-02	DIODE 10E2		L337	1-410-090-41	MICRO INDUCTOR 18MMH	
D811	8-719-911-19	DIODE ISS119		L405	1-404-496-00	COIL	
D851	8-719-924-06	DIODE ERC24-06S		L406	1-408-411-00	MICRO INDUCTOR 15UH	
D852	8-719-300-65	DIODE ES1F		L420	1-408-411-00	MICRO INDUCTOR 15UH	
D853	8-719-924-06	DIODE ERC24-06S		L421	1-404-496-00	COIL	
D854	8-719-918-77	DIODE V19G		L430	1-410-091-31	MICRO INDUCTOR 22MMH	
D855	8-719-920-04	DIODE ERB12-04RK		L473	1-408-406-00	MICRO INDUCTOR 5.6UH	
D856	8-719-920-04	DIODE ERB12-04RK		L501	1-459-155-00	COIL (WITH CORE) 45UH	
D857	8-719-920-04	DIODE ERB12-04RK		L801	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)	
D1401	8-719-911-19	DIODE ISS119		L802 A	1-407-365-13	COIL, CHOKE	
D1402	8-719-911-19	DIODE ISS119		L803	1-408-235-00	MICRO INDUCTOR 2.2MMH	
D1403	8-719-911-19	DIODE ISS119		L804	1-410-669-31	MICRO INDUCTOR 33UH	
D1414	8-719-911-19	DIODE ISS119		L805	1-459-635-11	HLC	
D1415	8-719-911-19	DIODE ISS119		L851	1-408-163-00	MICRO INDUCTOR 5.6MMH	
D1431	8-719-911-19	DIODE ISS119		L852	1-459-407-00	COIL, FERRITE CHOKE	
D1441	8-719-911-19	DIODE ISS119		L853	1-410-677-31	MICRO INDUCTOR 180UH	
D1464	8-719-911-19	DIODE ISS119		L854	1-408-938-00	MICRO INDUCTOR 22UH	
D1467	8-719-120-25	DIODE RD4.3ES-L1		L860	1-410-666-31	MICRO INDUCTOR 18UH	
<u>DELAY LINE</u>							
DL301	1-415-122-31	DELAY LINE, 1H (PAL)		L1430	1-408-413-00	MICRO INDUCTOR 22UH	
<u>IC</u>							
IC001	8-759-603-96	IC M50436-515SP		NL801	1-519-237-11	LAMP, NEON	
IC002	8-759-603-41	IC M58655P					<u>NEON LAMP</u>
IC003	8-759-157-40	IC UPC574J					<u>TRANSISTOR</u>
IC004	8-741-139-80	IC BX-1398		Q001	8-729-178-54	TRANSISTOR 2SC2785	
IC005	8-759-403-44	IC MN1280-S		Q002	8-729-900-36	TRANSISTOR DTC124ES	
IC201	8-759-101-77	IC UPC1241H		Q005	8-729-900-63	TRANSISTOR DTA124ES	
IC300	8-752-030-86	IC CXA1001AP		Q009	8-729-900-63	TRANSISTOR DTA124ES	
IC400	8-751-750-00	IC CX-175		Q010	8-729-900-63	TRANSISTOR DTA124ES	
IC401	8-759-140-66	IC UPD4066BC		Q031	8-729-117-54	TRANSISTOR 2SA1175	
IC501	8-759-100-60	IC UPC1377C		Q050	8-729-900-63	TRANSISTOR DTA124ES	
IC551	8-759-105-82	IC UPC1378H-P					

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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>
Q055	8-729-178-54	TRANSISTOR	2SC2785			R004	1-249-433-11	CARBON	22K	5%	1/4W
Q056	8-729-117-54	TRANSISTOR	2SA1175			R005	1-249-427-11	CARBON	6.8K	5%	1/4W
Q063	8-729-178-54	TRANSISTOR	2SC2785			R008	1-249-413-11	CARBON	470	5%	1/4W
Q081	8-729-177-32	TRANSISTOR	2SD773			R009	1-249-397-11	CARBON	22	5%	1/4W
Q084	8-729-117-54	TRANSISTOR	2SA1175			R011	1-249-435-11	CARBON	33K	5%	1/4W
Q201	8-729-178-54	TRANSISTOR	2SC2785			R012	1-247-895-00	CARBON	470K	5%	1/4W
Q210	8-729-178-54	TRANSISTOR	2SC2785			R013	1-249-440-11	CARBON	82K	5%	1/4W
Q242	8-729-178-54	TRANSISTOR	2SC2785			R014	1-249-434-11	CARBON	27K	5%	1/4W
Q243	8-729-178-54	TRANSISTOR	2SC2785			R015	1-249-427-11	CARBON	6.8K	5%	1/4W
Q251	8-729-178-54	TRANSISTOR	2SC2785			R016	1-249-429-11	CARBON	10K	5%	1/4W
Q272	8-729-117-54	TRANSISTOR	2SA1175			R017	1-249-431-11	CARBON	15K	5%	1/4W
Q273	8-729-117-54	TRANSISTOR	2SA1175			R018	1-249-417-11	CARBON	1K	5%	1/4W
Q274	8-729-117-54	TRANSISTOR	2SA1175			R019	1-249-429-11	CARBON	10K	5%	1/4W
Q291	8-729-178-54	TRANSISTOR	2SC2785			R020	1-247-891-00	CARBON	330K	5%	1/4W
Q334	8-729-900-63	TRANSISTOR	DTA124ES			R021	1-249-428-11	CARBON	8.2K	5%	1/4W
Q353	8-729-178-54	TRANSISTOR	2SC2785			R022	1-249-429-11	CARBON	10K	5%	1/4W
Q354	8-729-900-36	TRANSISTOR	DTC124ES			R026	1-249-417-11	CARBON	1K	5%	1/4W
Q380	8-729-900-80	TRANSISTOR	DTC114ES			R027	1-249-422-11	CARBON	2.7K	5%	1/4W
Q387	8-729-117-54	TRANSISTOR	2SA1175			R028	1-247-891-00	CARBON	330K	5%	1/4W
Q388	8-729-900-36	TRANSISTOR	DTC124ES			R029	1-249-429-11	CARBON	10K	5%	1/4W
Q400	8-729-178-54	TRANSISTOR	2SC2785			R030	1-249-405-11	CARBON	100	5%	1/4W
Q401	8-729-178-54	TRANSISTOR	2SC2785			R031	1-249-413-11	CARBON	470	5%	1/4W
Q402	8-729-178-54	TRANSISTOR	2SC2785			R032	1-215-493-00	CARBON	1M	5%	1/4W
Q470	8-729-178-54	TRANSISTOR	2SC2785			R033	1-249-441-11	CARBON	100K	5%	1/4W
Q503	8-729-178-54	TRANSISTOR	2SC2785			R035	1-247-849-00	CARBON	5.6K	5%	1/4W
Q504	8-729-178-54	TRANSISTOR	2SC2785			R036	1-249-427-11	CARBON	6.8K	5%	1/4W
Q801	8-729-168-82	TRANSISTOR	2SC2688			R037	1-249-417-11	CARBON	1K	5%	1/4W
Q802	8-729-202-58	TRANSISTOR	2SD1555-LB			R038	1-249-417-11	CARBON	1K	5%	1/4W
Q803	8-729-178-54	TRANSISTOR	2SC2785			R039	1-249-413-11	CARBON	470	5%	1/4W
Q804	8-729-178-54	TRANSISTOR	2SC2785			R040	1-249-417-11	CARBON	1K	5%	1/4W
Q805	8-729-117-54	TRANSISTOR	2SA1175			R041	1-249-413-11	CARBON	470	5%	1/4W
Q811	8-729-177-43	TRANSISTOR	2SD774			R042	1-249-413-11	CARBON	470	5%	1/4W
Q1401	8-729-117-54	TRANSISTOR	2SA1175			R043	1-249-413-11	CARBON	470	5%	1/4W
Q1402	8-729-117-54	TRANSISTOR	2SA1175			R044	1-249-413-11	CARBON	470	5%	1/4W
Q1403	8-729-117-54	TRANSISTOR	2SA1175			R045	1-249-413-11	CARBON	470	5%	1/4W
Q1404	8-729-178-54	TRANSISTOR	2SC2785			R046	1-249-409-11	CARBON	220	5%	1/4W
Q1405	8-729-117-54	TRANSISTOR	2SA1175			R047	1-249-409-11	CARBON	220	5%	1/4W
Q1406	8-729-900-36	TRANSISTOR	DTC124ES			R048	1-249-409-11	CARBON	220	5%	1/4W
Q1407	8-729-904-39	TRANSISTOR	DTC114TS			R049	1-249-437-11	CARBON	47K	5%	1/4W
Q1408	8-729-904-39	TRANSISTOR	DTC114TS			R050	1-249-437-11	CARBON	47K	5%	1/4W
Q1409	8-729-178-54	TRANSISTOR	2SC2785			R051	1-249-431-11	CARBON	15K	5%	1/4W
Q1410	8-729-117-54	TRANSISTOR	2SA1175			R052	1-249-466-11	CARBON	56K	5%	1/4W
Q1440	8-729-900-89	TRANSISTOR	DTC144ES			R053	1-249-429-11	CARBON	10K	5%	1/4W
Q1441	8-729-117-54	TRANSISTOR	2SA1175			R056	1-247-717-11	CARBON	2.2K	5%	1/4W
Q1442	8-729-117-54	TRANSISTOR	2SA1175			R059	1-249-417-11	CARBON	1K	5%	1/4W
Q1460	8-729-178-54	TRANSISTOR	2SC2785			R062	1-249-417-11	CARBON	1K	5%	1/4W
Q1462	8-729-904-34	TRANSISTOR	DTA114TS			R063	1-249-429-11	CARBON	10K	5%	1/4W
Q2408	8-729-900-36	TRANSISTOR	DTC124ES			R064	1-215-866-11	METAL OXIDE	330	5%	1W
<u>RESISTOR</u>						R069	1-249-429-11	CARBON	10K	5%	1/4W
R001	1-249-433-11	CARBON	22K	5%	1/4W	R070	1-249-421-11	CARBON	2.2K	5%	1/4W
R002	1-249-433-11	CARBON	22K	5%	1/4W	R071	1-215-491-00	CARBON	820K	5%	1/4W
R003	1-249-433-11	CARBON	22K	5%	1/4W	R072	1-247-887-00	CARBON	220K	5%	1/4W
						R073	1-247-725-11	CARBON	10K	5%	1/4W

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R081	1-249-410-11	CARBON	270	5%	1/4W	R303	1-249-469-11	CARBON	100K	5%	1/4W
R082	1-215-900-11	METAL OXIDE	22K	5%	2W	R304	1-246-511-00	CARBON	39K	5%	1/4W
R083	1-249-417-11	CARBON	1K	5%	1/4W	R305	1-247-883-00	CARBON	150K	5%	1/4W
R084	1-247-703-11	CARBON	180	5%	1/4W	R306	1-249-435-11	CARBON	33K	5%	1/4W
R085	1-249-437-11	CARBON	47K	5%	1/4W	R308	1-249-429-11	CARBON	10K	5%	1/4W
R086	1-246-517-25	CARBON	68K	5%	1/4W	R309	1-249-460-11	CARBON	15K	5%	1/4W
R087	1-249-409-11	CARBON	220	5%	1/4W	R311	1-249-439-11	CARBON	68K	5%	1/4W
R088	1-249-437-11	CARBON	47K	5%	1/4W	R312	1-249-439-11	CARBON	68K	5%	1/4W
R091	1-249-421-11	CARBON	2.2K	5%	1/4W	R316	1-249-415-11	CARBON	680	5%	1/4W
R092	1-249-421-11	CARBON	2.2K	5%	1/4W	R317	1-249-421-11	CARBON	2.2K	5%	1/4W
R093	1-249-417-11	CARBON	1K	5%	1/4W	R319	1-249-433-11	CARBON	22K	5%	1/4W
R094	1-249-416-11	CARBON	820	5%	1/4W	R321	1-249-416-11	CARBON	820	5%	1/4W
R095	1-246-517-25	CARBON	68K	5%	1/4W	R323	1-249-441-11	CARBON	100K	5%	1/4W
R096	1-249-429-11	CARBON	10K	5%	1/4W	R324	1-249-441-11	CARBON	100K	5%	1/4W
R097	1-249-409-11	CARBON	220	5%	1/4W	R326	1-249-441-11	CARBON	100K	5%	1/4W
R098	1-249-437-11	CARBON	47K	5%	1/4W	R330	1-249-429-11	CARBON	10K	5%	1/4W
R099	1-249-437-11	CARBON	47K	5%	1/4W	R331	1-215-493-00	CARBON	1M	5%	1/4W
R100	1-247-710-11	CARBON	560	5%	1/4W	R332	1-247-891-00	CARBON	330K	5%	1/4W
R201	1-249-435-11	CARBON	33K	5%	1/4W	R333	1-249-414-11	CARBON	560	5%	1/4W
R203	1-249-430-11	CARBON	12K	5%	1/4W	R335	1-249-420-11	CARBON	1.8K	5%	1/4W
R204	1-249-433-11	CARBON	22K	5%	1/4W	R336	1-249-409-11	CARBON	220	5%	1/4W
R206	1-249-409-11	CARBON	220	5%	1/4W	R337	1-249-428-11	CARBON	8.2K	5%	1/4W
R207	1-247-713-11	CARBON	1K	5%	1/4W	R340	1-249-421-11	CARBON	2.2K	5%	1/4W
R210	1-249-417-11	CARBON	1K	5%	1/4W	R341	1-249-422-11	CARBON	2.7K	5%	1/4W
R342	1-249-428-11	CARBON				R342	1-249-428-11	CARBON	8.2K	5%	1/4W
R211	1-202-551-00	SOLID	120	10%	1/2W	R343	1-249-433-11	CARBON	22K	5%	1/4W
R212	1-249-405-11	CARBON	100	5%	1/4W	R346	1-247-849-00	CARBON	5.6K	5%	1/4W
R220	1-249-409-11	CARBON	220	5%	1/4W	R350	1-249-429-11	CARBON	10K	5%	1/4W
R221	1-249-417-11	CARBON	1K	5%	1/4W	R374	1-249-435-11	CARBON	33K	5%	1/4W
R222	1-215-493-00	CARBON	1M	5%	1/4W	R375	1-249-435-11	CARBON	33K	5%	1/4W
R231	1-247-713-11	CARBON	1K	5%	1/4W	R387	1-249-427-11	CARBON	6.8K	5%	1/4W
R232	1-249-432-11	CARBON	18K	5%	1/4W	R388	1-247-891-00	CARBON	330K	5%	1/4W
R234	1-249-431-11	CARBON	15K	5%	1/4W	R389	1-249-435-11	CARBON	33K	5%	1/4W
R235	1-249-417-11	CARBON	1K	5%	1/4W	R393	1-249-429-11	CARBON	10K	5%	1/4W
R236	1-249-447-11	CARBON	1	5%	1/4W	R395	1-215-489-00	CARBON	680K	5%	1/4W
R237	1-216-357-00	METAL OXIDE	4.7	5%	1W	R401	1-249-409-11	CARBON	220	5%	1/4W
R251	1-249-466-11	CARBON	56K	5%	1/4W	R402	1-247-715-11	CARBON	1.5K	5%	1/4W
R252	1-249-433-11	CARBON	22K	5%	1/4W	R403	1-249-429-11	CARBON	10K	5%	1/4W
R263	1-249-433-11	CARBON	22K	5%	1/4W	R406	1-249-412-11	CARBON	390	5%	1/4W
R264	1-249-433-11	CARBON	22K	5%	1/4W	R410	1-249-422-11	CARBON	2.7K	5%	1/4W
R265	1-247-718-11	CARBON	2.7K	5%	1/4W	R411	1-215-489-00	CARBON	680K	5%	1/4W
R266	1-247-714-11	CARBON	1.2K	5%	1/4W	R415	1-247-725-11	CARBON	10K	5%	1/4W
R272	1-249-433-11	CARBON	22K	5%	1/4W	R418	1-247-719-11	CARBON	3.3K	5%	1/4W
R273	1-249-433-11	CARBON	22K	5%	1/4W	R419	1-249-432-11	CARBON	18K	5%	1/4W
R274	1-249-433-11	CARBON	22K	5%	1/4W	R420	1-249-412-11	CARBON	390	5%	1/4W
R278	1-249-409-11	CARBON	220	5%	1/4W	R424	1-249-430-11	CARBON	12K	5%	1/4W
R279	1-249-409-11	CARBON	220	5%	1/4W	R425	1-249-408-11	CARBON	180	5%	1/4W
R290	1-249-435-11	CARBON	33K	5%	1/4W	R426	1-249-428-11	CARBON	8.2K	5%	1/4W
R291	1-249-429-11	CARBON	10K	5%	1/4W	R427	1-249-417-11	CARBON	1K	5%	1/4W
R292	1-249-413-11	CARBON	470	5%	1/4W	R429	1-249-432-11	CARBON	18K	5%	1/4W
R293	1-247-891-00	CARBON	330K	5%	1/4W	R430	1-249-423-11	CARBON	3.3K	5%	1/4W
R300	1-249-429-11	CARBON	10K	5%	1/4W	R431	1-249-422-11	CARBON	2.7K	5%	1/4W
R301	1-249-413-11	CARBON	470	5%	1/4W	R432	1-249-425-11	CARBON	4.7K	5%	1/4W

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R433	1-249-425-11	CARBON	4.7K 5% 1/4W	R562	1-246-525-00	CARBON	150K 5% 1/4W
R434	1-249-414-11	CARBON	560 5% 1/4W	R563	1-246-545-00	CARBON	1M 5% 1/4W
R435	1-249-417-11	CARBON	1K 5% 1/4W	R565	1-249-409-11	CARBON	220 5% 1/4W
R436	1-249-418-11	CARBON	1.2K 5% 1/4W	R576	1-249-413-11	CARBON	470 5% 1/4W
R437	1-246-509-25	CARBON	33K 5% 1/4W	R578	1-249-401-11	CARBON	47 5% 1/4W
R438	1-249-433-11	CARBON	22K 5% 1/4W	R580	1-249-409-11	CARBON	220 5% 1/4W
R439	1-249-414-11	CARBON	560 5% 1/4W	R801	1-249-406-11	CARBON	120 5% 1/4W
R440	1-249-417-11	CARBON	1K 5% 1/4W	R802	1-249-437-11	CARBON	47K 5% 1/4W
R470	1-249-423-11	CARBON	3.3K 5% 1/4W	R803	1-247-717-11	CARBON	2.2K 5% 1/4W
R471	1-249-427-11	CARBON	6.8K 5% 1/4W	R804	1-247-717-11	CARBON	2.2K 5% 1/4W F
R472	1-249-417-11	CARBON	1K 5% 1/4W	R805	1-247-716-11	CARBON	1.8K 5% 1/4W F
R473	1-249-412-11	CARBON	390 5% 1/4W	R806	1-205-642-00	CEMENTED	3.3K 10% 5W
R504	1-249-409-11	CARBON	220 5% 1/4W	R807	1-216-346-00	METAL OXIDE	0.56 5% 1W F
R505	1-249-409-11	CARBON	220 5% 1/4W	R808	1-247-700-11	CARBON	100 5% 1/4W
R507	1-249-417-11	CARBON	1K 5% 1/4W	R809	1-247-708-11	CARBON	470 5% 1/4W F
R508	1-249-422-11	CARBON	2.7K 5% 1/4W	R810	1-213-131-00	METAL OXIDE	100 5% 1W F
R509	1-249-424-11	CARBON	3.9K 5% 1/4W	R811	1-247-725-11	CARBON	10K 5% 1/4W
R510	1-249-435-11	CARBON	33K 5% 1/4W	R812	1-249-427-11	CARBON	6.8K 5% 1/4W F
R511	1-215-461-00	METAL	47K 1% 1/6W	R813	1-249-429-11	CARBON	10K 5% 1/4W
R512	1-249-417-11	CARBON	1K 5% 1/4W	R814	1-249-432-11	CARBON	18K 5% 1/4W
R513	1-215-475-00	METAL	180K 1% 1/6W	R815	1-249-414-11	CARBON	560 5% 1/4W
R514	1-215-455-00	METAL	27K 1% 1/6W	R816	1-249-416-11	CARBON	820 5% 1/4W
R515	1-249-429-11	CARBON	10K 5% 1/4W	R817	1-249-405-11	CARBON	100 5% 1/4W
R516	1-214-771-00	METAL	56K 1% 1/4W	R819	1-247-692-11	CARBON	22 5% 1/4W F
R517	1-249-429-11	CARBON	10K 5% 1/4W	R820	1-247-717-11	CARBON	2.2K 5% 1/4W F
R821	1-213-133-00	METAL OXIDE		R821	1-213-133-00	METAL OXIDE	150 5% 1W F
R518	1-247-849-00	CARBON	5.6K 5% 1/4W	R822	1-213-133-00	METAL OXIDE	150 5% 1W F
R519	1-249-415-11	CARBON	680 5% 1/4W	R823	1-213-133-00	METAL OXIDE	150 5% 1W F
R520	1-247-710-11	CARBON	560 5% 1/4W F	R836	1-246-523-00	CARBON	120K 5% 1/4W
R521	1-249-430-11	CARBON	12K 5% 1/4W	R837	1-202-830-11	SOLID	10K 10% 1/2W
R523	1-247-120-00	CARBON	360 5% 1/4W	R838	1-215-862-11	METAL OXIDE	68 5% 1W F
R524	1-214-767-00	METAL	39K 1% 1/4W	R839	1-249-425-11	CARBON	4.7K 5% 1/4W
R525	1-247-723-11	CARBON	6.8K 5% 1/4W F	R842	1-249-433-11	CARBON	22K 5% 1/4W
R526	1-216-464-11	METAL OXIDE	18K 5% 2W F	R843	1-249-466-11	CARBON	56K 5% 1/4W
R527	1-247-711-11	CARBON	680 5% 1/4W F	R844	1-249-462-11	CARBON	22K 5% 1/4W F
R529	1-249-423-11	CARBON	3.3K 5% 1/4W	R845	1-247-849-00	CARBON	5.6K 5% 1/4W
R530	1-249-440-11	CARBON	82K 5% 1/4W	R850	1-247-720-11	CARBON	3.9K 5% 1/4W
R531	1-249-440-11	CARBON	82K 5% 1/4W	R852	1-215-869-11	METAL OXIDE	1K 5% 1W F
R532	1-249-430-11	CARBON	12K 5% 1/4W	R853	1-215-881-11	METAL OXIDE	15 5% 2W F
R533	1-249-434-11	CARBON	27K 5% 1/4W	R854	1-249-443-11	CARBON	0.47 5% 1/4W F
R535	1-247-688-11	CARBON	10 5% 1/4W F	R856	1-247-722-11	CARBON	5.6K 5% 1/4W
R536	1-247-713-11	CARBON	1K 5% 1/4W	R858	1-247-722-11	CARBON	5.6K 5% 1/4W
R539	1-247-725-11	CARBON	10K 5% 1/4W	R859	1-214-781-00	METAL	150K 1% 1/4W
R540	1-249-425-11	CARBON	4.7K 5% 1/4W	R866	1-249-423-11	CARBON	3.3K 5% 1/4W
R541	1-249-437-11	CARBON	47K 5% 1/4W	R869	1-249-421-11	CARBON	2.2K 5% 1/4W
R542	1-249-427-11	CARBON	6.8K 5% 1/4W	R870	1-247-849-00	CARBON	5.6K 5% 1/4W
R543	1-249-429-11	CARBON	10K 5% 1/4W	R872	1-247-849-00	CARBON	5.6K 5% 1/4W
R551	1-247-721-11	CARBON	4.7K 5% 1/4W	R1401	1-249-409-11	CARBON	220 5% 1/4W
R552	1-215-867-00	METAL OXIDE	470 5% 1W F	R1402	1-247-713-11	CARBON	1K 5% 1/4W
R555	1-247-688-11	CARBON	10 5% 1/4W F	R1404	1-247-700-11	CARBON	100 5% 1/4W
R556	1-247-744-11	CARBON	270 5% 1/2W	R1405	1-249-441-11	CARBON	100K 5% 1/4W
R557	1-216-352-11	METAL OXIDE	1.8 5% 1W F	R1406	1-249-423-11	CARBON	3.3K 5% 1/4W
R558	1-247-769-00	CARBON	2.7 5% 1/4W	R1407	1-249-417-11	CARBON	1K 5% 1/4W
R561	1-246-523-00	CARBON	120K 5% 1/4W	R1408	1-249-439-11	CARBON	68K 5% 1/4W

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R1409	1-249-439-11	CARBON	68K 5% 1/4W	R1487	1-249-405-11	CARBON	100 5% 1/4W
R1410	1-249-421-11	CARBON	2.2K 5% 1/4W	R1488	1-249-405-11	CARBON	100 5% 1/4W
R1411	1-249-409-11	CARBON	220 5% 1/4W	R1489	1-249-405-11	CARBON	100 5% 1/4W
R1412	1-249-429-11	CARBON	10K 5% 1/4W	R1490	1-247-725-11	CARBON	10K 5% 1/4W
R1413	1-249-417-11	CARBON	1K 5% 1/4W	R1491	1-215-431-00	METAL	2.7K 1% 1/6W
R1414	1-249-421-11	CARBON	2.2K 5% 1/4W	R1492	1-215-469-00	METAL	100K 1% 1/6W
R1417	1-249-417-11	CARBON	1K 5% 1/4W	R1493	1-215-475-00	METAL	180K 1% 1/6W
R1418	1-249-417-11	CARBON	1K 5% 1/4W	R1494	1-249-421-11	CARBON	2.2K 5% 1/4W
R1419	1-249-417-11	CARBON	1K 5% 1/4W	R1495	1-215-491-00	CARBON	820K 5% 1/4W
R1420	1-249-385-11	CARBON	2.2 5% 1/4W F	R1499	1-249-441-11	CARBON	100K 5% 1/4W
R1430	1-249-417-11	CARBON	1K 5% 1/4W	R2432	1-247-719-11	CARBON	3.3K 5% 1/4W
R1431	1-247-713-11	CARBON	1K 5% 1/4W	R2433	1-249-423-11	CARBON	3.3K 5% 1/4W
R1432	1-249-429-11	CARBON	10K 5% 1/4W	R2434	1-249-423-11	CARBON	3.3K 5% 1/4W
R1433	1-249-425-11	CARBON	4.7K 5% 1/4W	R2435	1-249-433-11	CARBON	22K 5% 1/4W
R1434	1-247-744-11	CARBON	270 5% 1/2W	R2437	1-249-429-11	CARBON	10K 5% 1/4W
R1435	1-249-397-11	CARBON	22 5% 1/4W F				<u>VARIABLE RESISTOR</u>
R1440	1-247-717-11	CARBON	2.2K 5% 1/4W	RV003	1-237-435-11	RES, VAR, CARBON(WITH SW)	10KX2
R1441	1-249-441-11	CARBON	100K 5% 1/4W	RV004	1-228-993-00	RES, ADJ, CARBON	4.7K
R1442	1-249-421-11	CARBON	2.2K 5% 1/4W	RV301	1-230-624-41	RES, ADJ, CARBON	220
R1443	1-215-479-00	METAL	270K 1% 1/6W	RV302	1-226-773-11	RES, ADJ, METAL GLAZE	22K
R1444	1-249-441-11	CARBON	100K 5% 1/4W	RV303	1-230-630-11	RES, ADJ, CARBON	10K
R1445	1-249-433-11	CARBON	22K 5% 1/4W				
R1446	1-249-437-11	CARBON	47K 5% 1/4W	RV501	1-228-993-00	RES, ADJ, METAL GLAZE	4.7K
R1447	1-249-417-11	CARBON	1K 5% 1/4W	RV502	1-228-993-00	RES, ADJ, CARBON	4.7K
R1448	1-249-437-11	CARBON	47K 5% 1/4W	RV503	1-230-624-41	RES, ADJ, CARBON	220
R1450	1-249-397-11	CARBON	22 5% 1/4W	RV504	1-230-628-11	RES, ADJ, CARBON	2.2K
R1453	1-215-435-00	METAL	3.9K 1% 1/6W	RV551	1-224-250-XX	RES, ADJ, METAL GLAZE	2.2K
R1454	1-215-439-00	METAL	5.6K 1% 1/6W				
R1458	1-247-885-00	CARBON	180K 5% 1/4W	RV873	1-228-993-00	RES, ADJ, CARBON	4.7K
R1459	1-249-431-11	CARBON	15K 5% 1/4W	RV875	1-230-628-11	RES, ADJ, CARBON	2.2K
							<u>SWITCH</u>
R1460	1-246-517-25	CARBON	68K 5% 1/4W	S001	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1461	1-249-409-11	CARBON	220 5% 1/4W	S002	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1462	1-249-405-11	CARBON	100 5% 1/4W	S003	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1463	1-249-405-11	CARBON	100 5% 1/4W	S005	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1464	1-249-405-11	CARBON	100 5% 1/4W	S006	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1465	1-247-887-00	CARBON	220K 5% 1/4W	S007	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1466	1-249-417-11	CARBON	1K 5% 1/4W	S008	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1467	1-247-895-00	CARBON	470K 5% 1/4W	S009	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1468	1-249-409-11	CARBON	220 5% 1/4W	S010	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1470	1-249-405-11	CARBON	100 5% 1/4W	S011	1-554-804-11	SWITCH, PUSH (1 KEY)	
R1472	1-249-405-11	CARBON	100 5% 1/4W				<u>SPARK GAP</u>
R1473	1-249-405-11	CARBON	100 5% 1/4W				
R1476	1-249-438-11	CARBON	56K 5% 1/4W	SG801	1-519-063-XX	DISCHARGING GAP	
R1477	1-249-417-11	CARBON	1K 5% 1/4W				
R1478	1-249-462-11	CARBON	22K 5% 1/4W				
							<u>TRANSFORMER</u>
R1479	1-247-895-00	CARBON	470K 5% 1/4W	T301	1-404-524-11	DAT	
R1480	1-249-421-11	CARBON	2.2K 5% 1/4W	T401	1-404-584-11	COIL	
R1491	1-247-717-11	CARBON	2.2K 5% 1/4W	T801	1-421-351-00	H.PCT	
R1482	1-249-421-11	CARBON	2.2K 5% 1/4W	T802	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE	
R1483	1-249-437-11	CARBON	47K 5% 1/4W	T851 A.1-439-363-11	TRANSFORMER ASSY, FLYBACK		
R1484	1-249-417-11	CARBON	1K 5% 1/4W				
R1485	1-249-417-11	CARBON	1K 5% 1/4W				
R1486	1-249-417-11	CARBON	1K 5% 1/4W				

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>			
<u>THERMISTOR</u>						<u>RESISTOR</u>								
TH501A 1-806-213-11 THERMISTOR						R2401	1-247-711-11	CARBON	680	5%	1/4W			
<u>TUNER</u>						R2402	1-249-437-11	CARBON	47K	5%	1/4W			
TU201A 1-463-761-11 TUNER, ET (BT-883B)						R2403	1-249-425-11	CARBON	4.7K	5%	1/4W			
<u>CRYSTAL</u>						R2404	1-249-382-11	CARBON	1.2	5%	1/4W			
X001	1-567-686-11	OSCILLATOR, CERAMIC				R2405	1-249-434-11	CARBON	27K	5%	1/4W			
X443	1-567-504-11	OSCILLATOR, CRYSTAL				R2406	1-249-429-11	CARBON	10K	5%	1/4W			
<u>YC MODULE</u>						R2407	1-249-429-11	CARBON	10K	5%	1/4W			
YCM301	1-235-833-11	YC MODULE				R2408	1-215-479-00	CARBON	270K	5%	1/4W			

*A-1373-084-A U BOARD, COMPLETE						R2411	1-249-431-11	CARBON	15K	5%	1/4W			
*****						R2412	1-249-429-11	CARBON	10K	5%	1/4W			
<u>CAPACITOR</u>						R2414	1-249-425-11	CARBON	4.7K	5%	1/4W			
C2401	1-124-462-00	ELECT	10MF	20%	16V	R2415	1-249-425-11	CARBON	4.7K	5%	1/4W			
C2403	1-124-255-00	ELECT	1MF	20%	50V	R2421	1-249-404-00	CARBON	82	5%	1/4W			
C2405	1-124-236-00	ELECT	47MF	20%	16V	R2422	1-249-410-11	CARBON	270	5%	1/4W			
C2406	1-124-255-00	ELECT	1MF	20%	50V	R2423	1-249-423-11	CARBON	3.3K	5%	1/4W			
C2409	1-162-294-31	CERAMIC	0.001MF	10%	50V	R2425	1-249-404-00	CARBON	82	5%	1/4W			
C2410	1-161-494-00	CERAMIC	0.022MF		25V	R2426	1-249-404-00	CARBON	82	5%	1/4W			
C2411	1-124-236-00	ELECT	47MF	20%	16V	R2427	1-249-404-00	CARBON	82	5%	1/4W			
C2412	1-124-236-00	ELECT	47MF	20%	16V	R2428	1-249-404-00	CARBON	82	5%	1/4W			
C2413	1-161-494-00	CERAMIC	0.022MF		25V	R2429	1-249-425-11	CARBON	4.7K	5%	1/4W			
C2414	1-124-236-00	ELECT	47MF	20%	16V	R2430	1-249-401-11	CARBON	47	5%	1/4W			
C2415	1-124-234-00	ELECT	22MF	20%	16V	R2438	1-249-428-11	CARBON	8.2K	5%	1/4W			
C2416	1-124-234-00	ELECT	22MF	20%	16V	R2439	1-249-417-11	CARBON	1K	5%	1/4W			
C2417	1-124-234-00	ELECT	22MF	20%	16V	R2440	1-249-419-11	CARBON	1.5K	5%	1/4W			
<u>DIODE</u>						R2441	1-247-696-11	CARBON	47	5%	1/4W			
D2401	8-719-110-35	DIODE RD13ES-B1				R2442	1-249-425-11	CARBON	4.7K	5%	1/4W			
D2402	8-719-110-35	DIODE RD13ES-B1				R2443	1-215-489-00	CARBON	680K	5%	1/4W			
D2403	8-719-110-35	DIODE RD13ES-B1				R2445	1-247-891-00	CARBON	330K	5%	1/4W			
D2405	8-719-110-35	DIODE RD13ES-B1				*****								
D2406	8-719-110-35	DIODE RD13ES-B1				*A-1330-805-A C BOARD, COMPLETE								
<u>JACK</u>						*****								
J2401	1-561-534-41	SOCKET 21P				1-526-814-11 SOCKET, CRT								
<u>TRANSISTOR</u>						*4-374-704-01 COVER (REAR LID), CV VOL								
Q2401	8-729-178-54	TRANSISTOR 2SC2785				*4-374-717-01 COVER (MAIN), CV VOL								
Q2402	8-729-178-54	TRANSISTOR 2SC2785				<u>CONNECTOR</u>								
Q2403	8-729-178-54	TRANSISTOR 2SC2785				C1	*1-506-371-00	2P PLUG (L)						
Q2405	8-729-178-54	TRANSISTOR 2SC2785				C2	*1-508-768-00	6P PLUG						
Q2406	8-729-117-54	TRANSISTOR 2SA1175				C3	*1-560-985-00	PLUG, CONNECTOR (2.5MM) 11P						
<u>CAPACITOR</u>						<u>CAPACITOR</u>								
C701	1-102-115-00	CERAMIC				C701	1-102-115-00	CERAMIC	560PF	10%	50V			
C702	1-102-113-00	CERAMIC				C702	1-102-113-00	CERAMIC	390PF	10%	50V			
C703	1-102-114-00	CERAMIC				C703	1-102-114-00	CERAMIC	470PF	10%	50V			
C704	1-102-121-00	CERAMIC				C704	1-102-121-00	CERAMIC	0.0022MF	10%	50V			
C705	1-123-356-00	ELECT				C705	1-123-356-00	ELECT	10MF	20%	25V			
C706	1-102-074-00	CERAMIC				C706	1-102-074-00	CERAMIC	0.001MF	10%	50V			
C707	1-129-718-00	FILM				C707	1-129-718-00	FILM	0.022MF	10%	630V			

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C

V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
C708	1-162-116-00	CERAMIC	680PF 0.0047MF	10%	2KV	R717	1-202-818-00	SOLID	1K	10%	1/2W
C709	1-161-964-00	CERAMIC	250V		R718	1-206-692-00	METAL OXIDE	15K	5%	2W	
C710	1-162-115-00	CERAMIC	330PF	10%	2KV	R719	1-202-818-00	SOLID	1K	10%	1/2W
C713	1-161-741-00	CERAMIC	0.001MF	10%	400V	R720	1-206-692-00	METAL OXIDE	15K	5%	2W
C714	1-102-116-00	CERAMIC	680PF	10%	50V	R722	1-202-837-00	SOLID	82K	10%	1/2W
C715	1-102-116-00	CERAMIC	680PF	10%	50V	R723	1-202-846-00	SOLID	470K	10%	1/2W
C716	1-102-116-00	CERAMIC	680PF	10%	50V	R724	1-202-848-00	SOLID	680K	10%	1/2W
C736	1-123-356-00	ELECT	10MF	20%	50V	R725	1-202-843-11	SOLID	270K	10%	1/2W
<u>DIODE</u>											
D701	8-719-911-19	DIODE	ISS119		R728	1-216-375-00	METAL OXIDE	3.3	5%	2W	
D702	8-719-911-19	DIODE	ISS119		R729	1-202-842-11	SOLID	220K	10%	1/2W	
D703	8-719-911-19	DIODE	ISS119		R730	1-202-549-00	SOLID	100	10%	1/2W	
D704	8-719-911-19	DIODE	ISS119		R731	1-249-409-11	CARBON	220	5%	1/4W	
D705	8-719-911-19	DIODE	ISS119		R732	1-249-409-11	CARBON	220	5%	1/4W	
D706	8-719-911-19	DIODE	ISS119		R733	1-249-409-11	CARBON	220	5%	1/4W	
D707	8-719-901-83	DIODE	ISS83		R734	1-247-704-11	CARBON	220	5%	1/4W	
D708	8-719-901-83	DIODE	ISS83		R735	1-247-704-11	CARBON	220	5%	1/4W	
D709	8-719-901-83	DIODE	ISS83		R736	1-247-704-11	CARBON	220	5%	1/4W	
D710	8-719-911-19	DIODE	ISS119		R737	1-249-405-11	CARBON	100	5%	1/4W	
D711	8-719-911-19	DIODE	ISS119		R738	1-249-405-11	CARBON	100	5%	1/4W	
D712	8-719-911-19	DIODE	ISS119		R739	1-249-405-11	CARBON	100	5%	1/4W	
D713	8-719-901-83	DIODE	ISS83		R740	1-247-725-11	CARBON	10K	5%	1/4W	
<u>COIL</u>											
L701	1-410-466-41	MICRO INDUCTOR	4.7UH		R741	1-247-725-11	CARBON	10K	5%	1/4W	
<u>TRANSISTOR</u>											
Q701	8-729-178-54	TRANSISTOR	2SC2785		R742	1-247-725-11	CARBON	10K	5%	1/4W	
Q702	8-729-178-54	TRANSISTOR	2SC2785		R743	1-249-441-11	CARBON	100K	5%	1/4W	
Q703	8-729-178-54	TRANSISTOR	2SC2785		R744	1-247-725-11	CARBON	10K	5%	1/4W	
Q704	8-729-200-17	TRANSISTOR	2SA1091		R745	1-249-429-11	CARBON	10K	5%	1/4W	
Q705	8-729-200-17	TRANSISTOR	2SA1091		R746	1-215-879-51	METAL OXIDE	47K	5%	1W	
Q706	8-729-200-17	TRANSISTOR	2SA1091		R747	1-247-725-11	CARBON	10K	5%	1/4W	
Q707	8-729-326-11	TRANSISTOR	2SC2611		R748	1-247-713-11	CARBON	1K	5%	1/4W	
Q708	8-729-326-11	TRANSISTOR	2SC2611		R749	1-215-902-11	METAL OXIDE	47K	5%	2W	
Q709	8-729-326-11	TRANSISTOR	2SC2611		<u>VARIABLE RESISTOR</u>						
Q710	8-729-200-17	TRANSISTOR	2SA1091		RV701	1-228-729-00	RES, ADJ, CERAMIC	220K			
Q711	8-729-200-17	TRANSISTOR	2SA1091		RV705	1-228-728-00	RES, ADJ, CERAMIC	100K			
Q712	8-729-200-17	TRANSISTOR	2SA1091		RV706	1-228-725-00	RES, ADJ, CERAMIC	22K			
Q713	8-729-255-12	TRANSISTOR	2SC2551		RV707	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M			
Q714	8-729-255-12	TRANSISTOR	2SC2551		RV708	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M			
<u>RESISTOR</u>											
R701	1-215-478-00	METAL	240K	1%	1/6W	RV709A	1-230-619-11	RES, ADJ, METAL GLAZE	110M		
R702	1-215-479-00	METAL	270K	1%	1/6W	<u>SPARK GAP</u>					
R703	1-215-469-00	METAL	100K	1%	1/6W	SG701	1-519-030-00	DISCHARGE ELEMENT			
R704	1-215-413-00	METAL	470	1%	1/6W	SG702	1-519-030-00	DISCHARGE ELEMENT			
R705	1-215-412-00	METAL	430	1%	1/6W	SG703	1-519-030-00	DISCHARGE ELEMENT			
R706	1-215-411-00	METAL	390	1%	1/6W	*****					
R707	1-246-484-25	CARBON	3K	5%	1/4W	*A-1347-018-A V BOARD, COMPLETE (KV-19XMTD ONLY)					
R708	1-247-718-11	CARBON	2.7K	5%	1/4W	*****					
R709	1-247-719-11	CARBON	3.3K	5%	1/4W	CO1	1-126-101-11	ELECT	100MF	20%	16V
R710	1-249-397-11	CARBON	22	5%	1/4W						
R711	1-249-397-11	CARBON	22	5%	1/4W						
R712	1-249-397-11	CARBON	22	5%	1/4W						
R713	1-249-403-11	CARBON	68	5%	1/4W						
R715	1-202-818-00	SOLID	1K	10%	1/2W						
R716	1-206-692-00	METAL OXIDE	15K	5%	2W						

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

V

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>
C02	1-124-120-11	ELECT	220MF	20%	16V				<u>COIL</u>		
C03	1-124-119-00	ELECT	330MF	20%	16V				L01	1-408-411-00	MICRO INDUCTOR 15UH
C04	1-124-477-11	ELECT	47MF	20%	16V				L02	1-410-468-11	MICRO INDUCTOR 6.8UH
C05	1-126-101-11	ELECT	100MF	20%	16V				L03	1-410-468-11	MICRO INDUCTOR 6.8UH
C06	1-124-120-11	ELECT	220MF	20%	16V				L04	1-410-468-11	MICRO INDUCTOR 6.8UH
C07	1-124-499-11	ELECT	1MF	20%	50V				L05	1-410-468-11	MICRO INDUCTOR 6.8UH
C08	1-102-951-00	CERAMIC	15PF	5%	50V						
C09	1-102-074-00	CERAMIC	0.001MF	10%	50V				L06	1-410-468-11	MICRO INDUCTOR 6.8UH
C10	1-102-824-00	CERAMIC	470PF	5%	50V						
C11	1-108-630-91	MYLAR	0.022MF	10%	100V				<u>TRANSISTOR</u>		
C12	1-102-980-00	CERAMIC	270PF	5%	50V	Q01	8-729-201-78	TRANSISTOR	2SD1406		
C13	1-102-973-00	CERAMIC	100PF	5%	50V	Q02	8-729-805-13	TRANSISTOR	2SC1475-13		
C14	1-102-951-00	CERAMIC	15PF	5%	50V	Q03	8-729-900-80	TRANSISTOR	DTC114ES		
C15	1-102-961-00	CERAMIC	27PF	5%	50V	Q04	8-729-178-54	TRANSISTOR	2SC2785		
C16	1-106-367-00	MYLAR	0.01MF	10%	100V	Q05	8-729-805-13	TRANSISTOR	2SC1475-13		
C17	1-136-161-00	FILM	0.047MF	5%	50V	Q06	8-729-178-54	TRANSISTOR	2SC2785		
C18	1-102-953-00	CERAMIC	18PF	5%	50V	Q07	8-729-178-54	TRANSISTOR	2SC2785		
C19	1-136-161-00	FILM	0.047MF	5%	50V	Q09	8-729-204-83	TRANSISTOR	2SA1048-GR		
C20	1-102-978-00	CERAMIC	220PF	5%	50V	Q10	8-729-204-83	TRANSISTOR	2SA1048-GR		
C21	1-136-163-00	FILM	0.068MF	5%	50V	Q11	8-729-204-83	TRANSISTOR	2SA1048-GR		
C24	1-126-101-11	ELECT	100MF	20%	16V	<u>RESISTOR</u>					
C25	1-124-477-11	ELECT	47MF	20%	16V	R01	1-215-867-00	METAL OXIDE	470	5%	1W F
C27	1-102-820-00	CERAMIC	330PF	5%	50V	R02	1-249-425-11	CARBON	4.7K	5%	1/4W
C28	1-102-116-00	CERAMIC	680PF	10%	50V	R04	1-215-867-00	METAL OXIDE	470	5%	1W F
C29	1-124-927-11	ELECT	4.7MF	20%	50V	R05	1-247-700-11	CARBON	100	5%	1/4W
C51	1-136-165-00	FILM	0.1MF	5%	50V	R06	1-249-417-11	CARBON	1K	5%	1/4W
C52	1-136-165-00	FILM	0.1MF	5%	50V	R07	1-249-405-11	CARBON	100	5%	1/4W
C53	1-136-165-00	FILM	0.1MF	5%	50V	R08	1-249-411-11	CARBON	330	5%	1/4W
C54	1-136-165-00	FILM	0.1MF	5%	50V	R09	1-249-438-11	CARBON	56K	5%	1/4W
C55	1-136-171-00	FILM	0.33MF	5%	50V	R13	1-249-405-11	CARBON	100	5%	1/4W
C56	1-136-165-00	FILM	0.1MF	5%	50V	R14	1-249-405-11	CARBON	100	5%	1/4W
C57	1-102-074-00	CERAMIC	0.001MF	10%	50V	R15	1-215-493-00	CARBON	1M	5%	1/4W
C58	1-102-074-00	CERAMIC	0.001MF	10%	50V	R16	1-249-420-11	CARBON	1.8K	5%	1/4W
C59	1-102-074-00	CERAMIC	0.001MF	10%	50V	R17	1-249-417-11	CARBON	1K	5%	1/4W
<u>TRIMMER</u>											
CT01	1-141-181-11	CAP, TRIMMER				R20	1-247-721-11	CARBON	4.7K	5%	1/4W
<u>DIODE</u>											
D01	8-719-109-89	DIODE RD5.6ES-B2				R27	1-249-399-11	CARBON	33	5%	1/4W
D02	8-719-110-36	DIODE RD13ES-B2				R28	1-249-399-11	CARBON	33	5%	1/4W
D03	8-719-911-19	DIODE LSS119				R29	1-249-399-11	CARBON	33	5%	1/4W
D04	8-719-109-69	DIODE RD3.6ES-B2				R30	1-247-701-11	CARBON	120	5%	1/4W
D07	8-719-109-96	DIODE RD6.8ES-B1				R31	1-247-701-11	CARBON	120	5%	1/4W
D08	8-719-109-96	DIODE RD6.8ES-B1				R32	1-247-701-11	CARBON	120	5%	1/4W
<u>IC</u>											
IC01	8-759-942-54	IC MAB8461P-W083				R33	1-249-404-00	CARBON	82	5%	1/4W
IC02	8-759-013-20	IC SDA5231				R34	1-249-417-11	CARBON	1K	5%	1/4W
IC03	8-759-013-21	IC SDA5241				R37	1-249-405-11	CARBON	100	5%	1/4W
IC04	8-759-113-01	IC UPD4364CX-15L				R38	1-249-416-11	CARBON	820	5%	1/4W
						R40	1-249-425-11	CARBON	4.7K	5%	1/4W
						R41	1-249-413-11	CARBON	470	5%	1/4W
						R43	1-249-425-11	CARBON	4.7K	5%	1/4W
						R44	1-249-413-11	CARBON	470	5%	1/4W
						R45	1-247-713-11	CARBON	1K	5%	1/4W

V

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
R46	1-249-393-11	CARBON	10 5% 1/4W

VARIABLE RESISTOR

RV01 1-228-991-00 RES, ADJ, CARBON 2.2K

CONNECTOR

V1 *1-560-123-00 PLUG, CONNECTOR (2.5MM) 3P
 V2 *1-560-125-00 PLUG, CONNECTOR (2.5MM) 5P
 V3 *1-560-126-00 PLUG, CONNECTOR (2.5MM) 6P
 V4 *1-560-123-00 PLUG, CONNECTOR (2.5MM PITCH)
 V5 *1-560-290-00 PLUG, CONNECTOR (2.5MM PITCH)
 V6 *1-508-784-00 1P PLUG

CRYSTAL

X01 1-527-734-00 VIBRATOR, CRYSTAL
 X02 1-567-905-11 VIBRATOR, CRYSTAL
 X03 1-567-686-11 OSCILLATOR, CERAMIC

MISCELLANEOUS

A.1-451-279-21 DEFLECTION YOKE (SY165)
 1-452-032-00 MAGNET, DISK; 10MM Ø
 1-452-094-00 MAGNET ROTATABLE, DISK; 15MM Ø
 1-452-277-00 MAGNET, BMC
 1-503-258-21 SPEAKER

A.1-534-817-71 CORD, POWER
 A.1-537-097-11 TERMINAL BOARD ASSY, ANTENNA
 1-543-179-00 CORE, RING
 A.1-554-966-12 SWITCH, PUSH (AC POWER)(1 KEY)
 *1-557-241-31 CABLE, P-P

L901 A.1-426-331-11 COIL, DEMAGNETIZATION
 V901 A.8-737-951-05 PICTURE TUBE (A46JNL10X)

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
A-1470-760-A	COMMANDER ASSY (RM-652)(FOR KV-19XMD)	
A-1470-816-A	COMMANDER ASSY (RM-654)(FOR KV-19XMTD)	
*4-369-325-01	BAG, PROTECTION	
*4-385-517-01	CUSHION (UPPER) (ASSY)	
*4-385-518-01	CUSHION (LOWER) (ASSY)	
4-482-399-91	MANUAL, INSTRUCTION	

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

MC-Service

9-963-901-01

Sony Corporation
TV Group

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